SERVICE MANUAL

L295U / L297U

LCD PC

LCD Computer

L295U/L297U Series

Service Manual

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About this Manual

This manual is intended for service personnel who have completed sufficient training to undertake the maintenance and inspection of personal computers.

It is organized to allow you to look up basic information for servicing and/or upgrading components of the computer.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.
Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.
Appendix A, Part Lists
Appendix B, Schematic Diagrams

Related Documents

You may also need to consult the following manual for additional information:

User's Manual on CD
This describes the computer's features and the procedures for operating the computer and its ROM-based setup program. It also describes the installation and operation of the utility programs provided with the computer.

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1: Introduction

Overview

This manual covers the information you need to service or upgrade the L295U/L297U LCD computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

Operating systems (e.g. *DOS*, *Windows 9x*, *Windows NT 4.0*, *Windows 2000*, *Windows XP*, *OS/2 Warp*, *UNIX*, etc.) have their own manuals as do application software (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The L295U/L297U LCD computer is designed to be upgradeable. See ***"Disassembly" on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the " " symbol.

The balance of this chapter reviews the computer's technical specifications and features.

Model Differences

The differences between the model types are indicated in the table and pictures below.

Table 1 - 1
Model Specifications

Feature/Model	L295U Series	L297U Series
LCD Size	Color TFT 15" XGA LCD Panel (supporting a resolution of 1024*768 256K colors)	Color TFT 17" SXGA LCD Panel (supporting a resolution of 1280*1024 16 million colors)
CD Device Location	Left Side	Front
Dimensions	369mm (H) * 384mm (W) * 188mm (D	395mm (H) * 418mm (W) * 179mm (D)
Weight	8.9 Kg	10.2 Kg
Designs Supported (Additional Colors Also supported)		

System Specifications L295U/L297U

Table 1 - 2
L295U/L297U System Specifications

Feature	Specification - L295U	Specification - L297U
Processor Types	**Intel Pentium® 4 with HT Technology (520/ 530/ 540)** FC-PGA2 Package (478-pin) (90nm) - 90 Nanometer Process Technology, 1MB L2 Cache & 800MHz Front Side Bus **2.8/ 3.0/ 3.2/** GHz	
	Intel Pentium® 4 with HT Technology FC-PGA2 Package (478-pin) (130nm) - 130 Nanometer Process Technology, 512KB L2 Cache & 800MHz Front Side Bus **2.8/ 3.0/ 3.2** GHz	
	Intel Pentium® 4 FC-PGA2 Package (478-pin) (130nm) - 130 Nanometer Process Technology, 512KB L2 Cache & 533MHz Front Side Bus **2.8** GHz	
	Intel Celeron® D (325/ 330/ 335/ 340/ 345/ 350) FC-PGA2 Package (478-pin) (90nm) - 90 Nanometer Process Technology, 256KB L2 Cache & 533MHz Front Side Bus **2.53/ 2.66/ 2.80/ 2.93/ 3.06/ 3.2** GHz	
	Intel Celeron® FC-PGA2 Package (478-pin) (130nm) - 130 Nanometer Process Technology, 128KB L2 Cache & 400MHz Front Side Bus **2.4/ 2.5/ 2.6/ 2.7/ 2.8** GHz	
Core Logic	Intel Chipset 865-GV	
Memory	Two DIMM Sockets Supporting DDR 333/ 400 MHz Expandable Memory up to 2GB (128M/256M/512M/1GB DDR DIMM modules)	
BIOS	4MB Flash ROM Phoenix BIOS Supports ACPI Intel OSB Support	
LCD	Color TFT 15" XGA LCD Panel (supporting a resolution of 1024*768 256K colors)	Color TFT 17" SXGA LCD Panel (supporting a resolution of 1280*1024 16 million colors)

Feature	Specification - L295U	Specification - L297U
Video	865-GV Integrated Chipset Video RAM - Shared Memory Architecture (SMA) Supporting DDR Video Shared Memory up to 64MB 2D Hardware Accelerator (for block level transfers of data integrating an extensive set of instructions for 3D)	
Audio	AC97' Compatible SoundBlaster™ and Windows Sound System™ Compatible Two Built-In Speakers (3W) Three Audio Jacks for Headphone-Out, Line-In, and Microphone-In	
Interface	One Serial Port (16550A Compatible, 9 Pin Shell, up to 115Kbps) One Parallel Port (25pin Shell, SPP/Bi-Direction/ECP/EPP Mode Support) One External Monitor (VGA) Port (15-pin D-sub) Two PS/2 Ports (Keyboard & Mouse) Three Audio Jacks For Headphone-out, Line-in, and Microphone-in Four USB 2.0 Ports One RJ-45 Jack for 100M/10M Ethernet LAN One RJ-11 Port for Modem (**optional**) One Mini-PCI /IF IEEE 1394 Module (**optional**) - Enables IEEE 1394 Port (6 Pin Un-Powered)	
I/O Chip	Winbond W83627HF	
PC Card Sockets	Supports Two Type II Slots or One Type III PCMCIA Slot (Cardbus Support)	

Video Memory

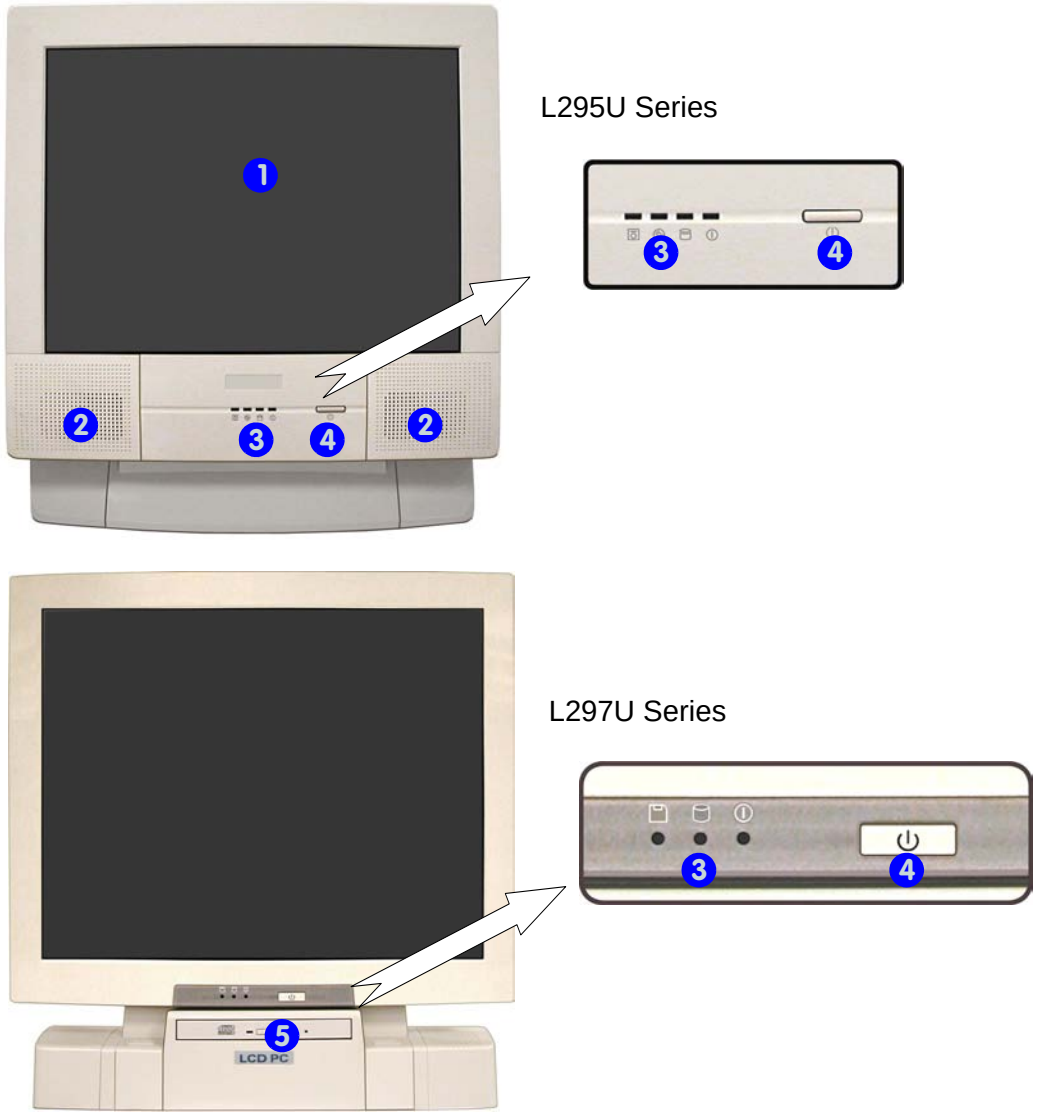
The system allocates or "shares" a portion of system memory for video use. See "Dynamic Video Memory Technology" on page 3 - 2 for information on the system allocated video memory, and ***"Share Memory (Main Menu)" on page 5 - 8*** for information on user configurable options.

Feature	Specification - L295U	Specification - L297U
Storage	One 3.5", 1.44MB 3-Mode Floppy Disk Drive (**Exchangeable With 6-in-1 Card Reader Module or Video-Capture Module**) One 3.5", 25.4mm Height Hard Disk Drive (Ultra-66/100 I/F Support) One Optical Device Bay for the Optional 12.7mm Height ATAPI CD-ROM, or CD-RW, or DVD-ROM, or DVD-ROM & CD-RW Combo, or DVD/RW+R	
Modem	Removable Internal 56k MDC Data/Fax Modem (**optional**)	
LAN	On Board 10/100Mbps Base Auto-Detection	
Power	Internal Switching Power Supply Full Range - AC in 90~264V, 160W	
Power Management	Supports ACPI Supports Hibernate Mode Supports Standby Mode	
Indicators	LED Indicators (HDD/FDD/CD Device activity, Power)	
Physical Dimensions	369mm (H) * 384mm (W) * 188mm (D)	395mm (H) * 418mm (W) * 179mm (D)
Weight	8.9Kg	10.2Kg

External Locator - Front View

Figure 1 - 1
Front View

1. LCD Panel
2. Speakers
3. LED Activity indicators
4. Power Button
5. CD Device (L297U Only)



External Location - Left & Right Side Views

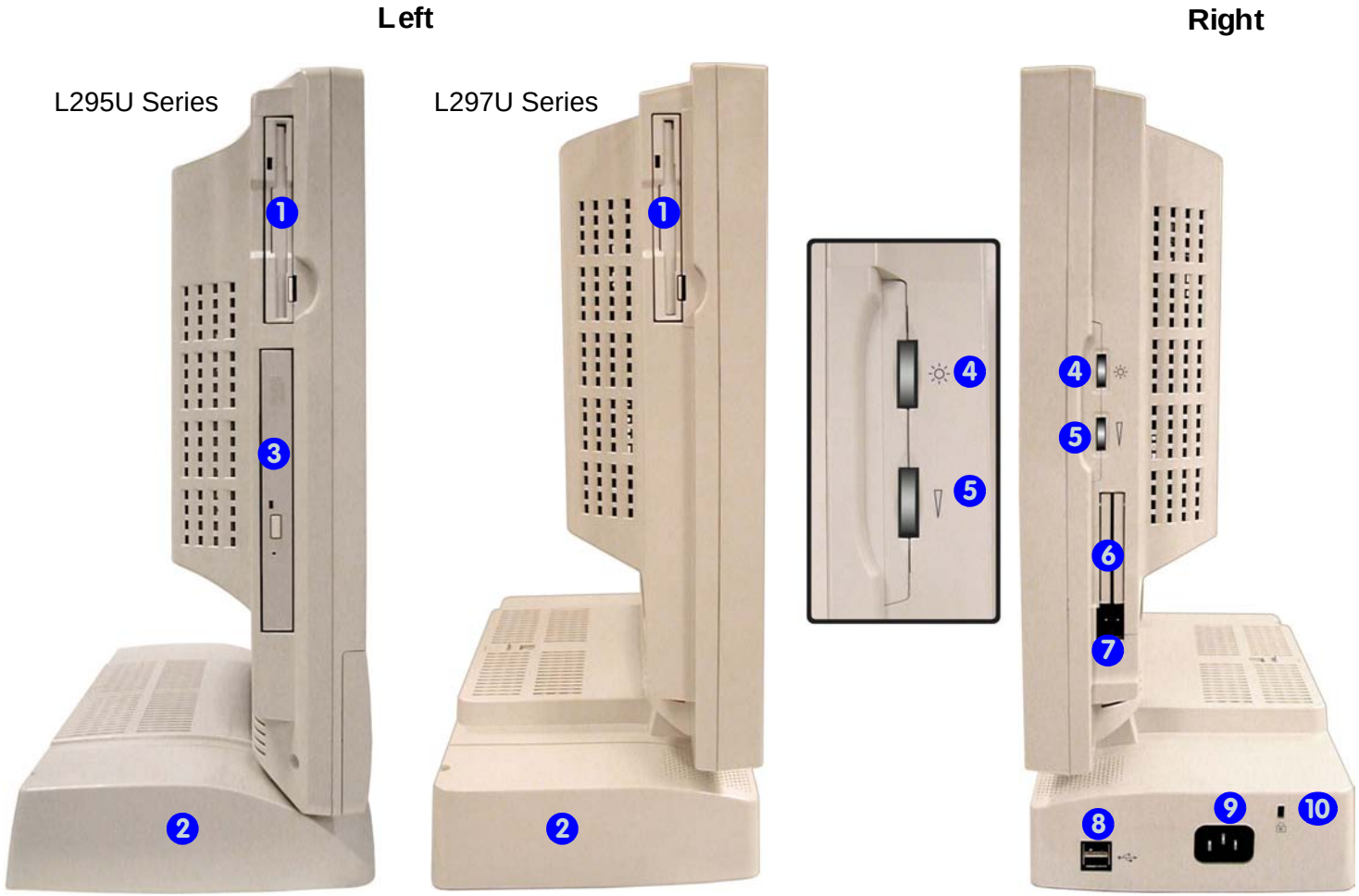


Figure 1 - 2
Left & Right Views

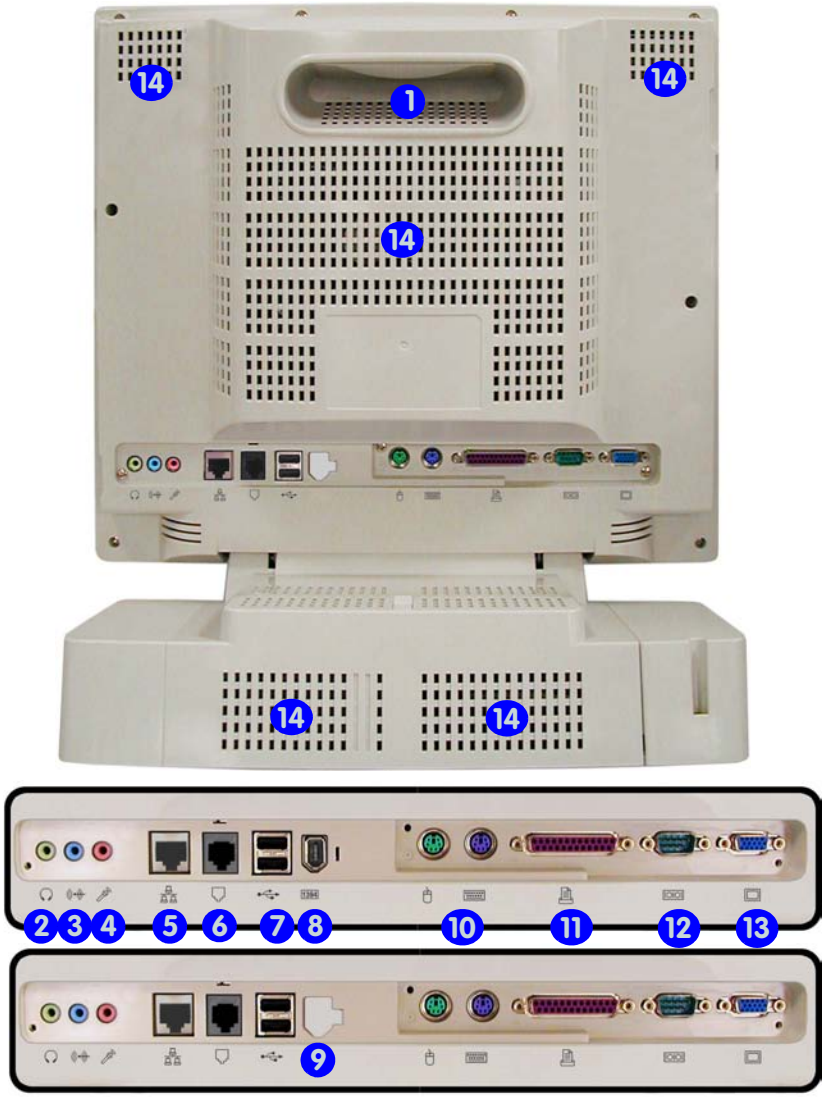
1. Floppy Disk Drive*
2. Hard Disk Drive (HDD) Bay
3. CD Device (L295U Only)
4. LCD Brightness Control Knob
5. Volume Control Knob
6. Dual PC Card Slots
7. PC Card Eject Buttons
8. Dual USB Ports
9. AC Power-In Port
10. Security Lock Slot

***Floppy Disk Drive & Optional Modules**

If you have **either** the **6-in-1 Card Reader**, or **Video Capture Card options**, then the optional module will replace the **floppy disk drive** module in the slot at point 1.

External Locator - Rear View

Figure 1 - 3
Rear View



1. Carrying Handle
2. Headphone-Out Jack
3. Line-In Jack
4. Microphone-In Jack
5. RJ-45 LAN Jack
6. RJ-11 Phone Jack
7. Dual USB Ports
8. Unpowered - IEEE 1394 Port
9. Blocked - IEEE 1394 Port (**no option installed**)
10. PS/2 Mouse & Keyboard Ports
11. Printer/Parallel Port
12. Serial Port
13. External Monitor (CRT) Port
14. Vents

Mainboard Overview - Top

Key Parts

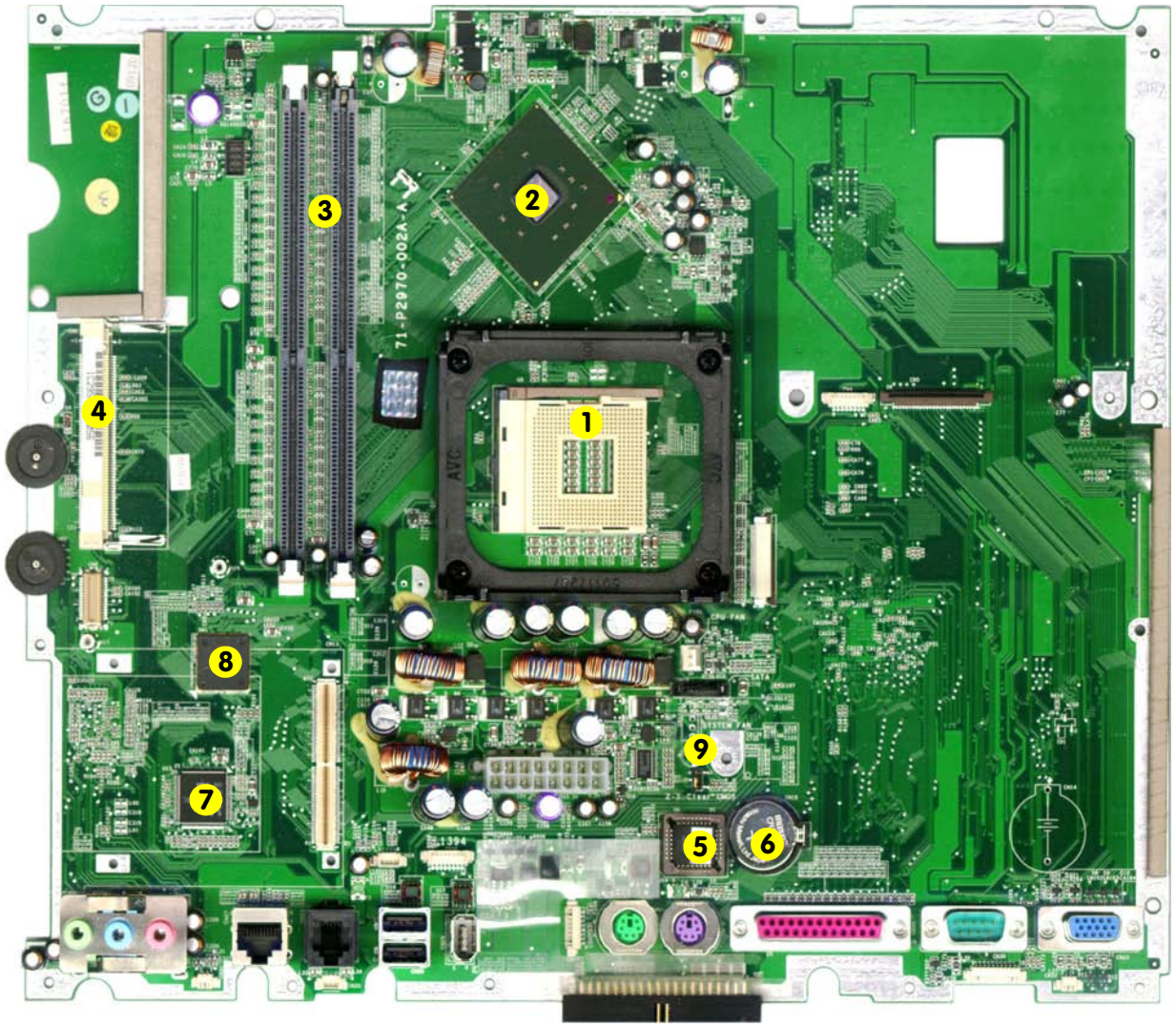


Figure 1 - 4
Mainboard Overview - Top Key Parts

1. CPU Socket (no CPU Installed)
2. Intel Springdale-G (North Bridge)
3. RAM Sockets
4. Mini PCI Socket for WLAN or IEEE1394
5. FLASH BIOS
6. CMOS Battery
7. Realtek RTL8100BL
8. Cardbus PCI1520
9. CMOS Jumper Switch

Mainboard Overview - Bottom

Key Parts

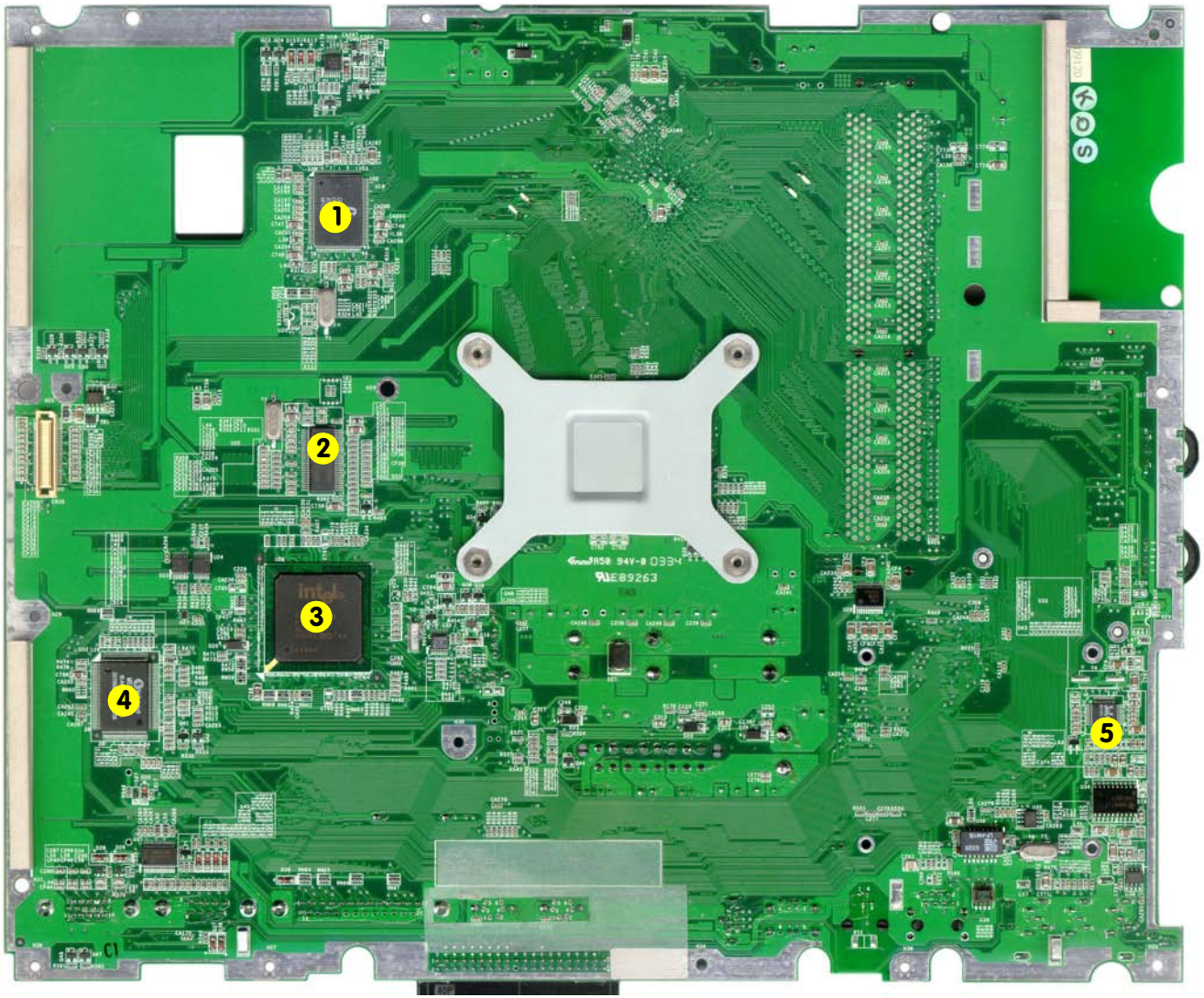


Figure 1 - 5
Mainboard Overview - Bottom Key Parts

1. Chrontel CH7017A
2. Clock Generator
3. Intel ICH-5 460 mBGA (South Bridge)
4. SUPER I/O Winbond W83627HF
5. AC'97 MDC Module

Mainboard Overview - Top

Cable Connectors and Switches

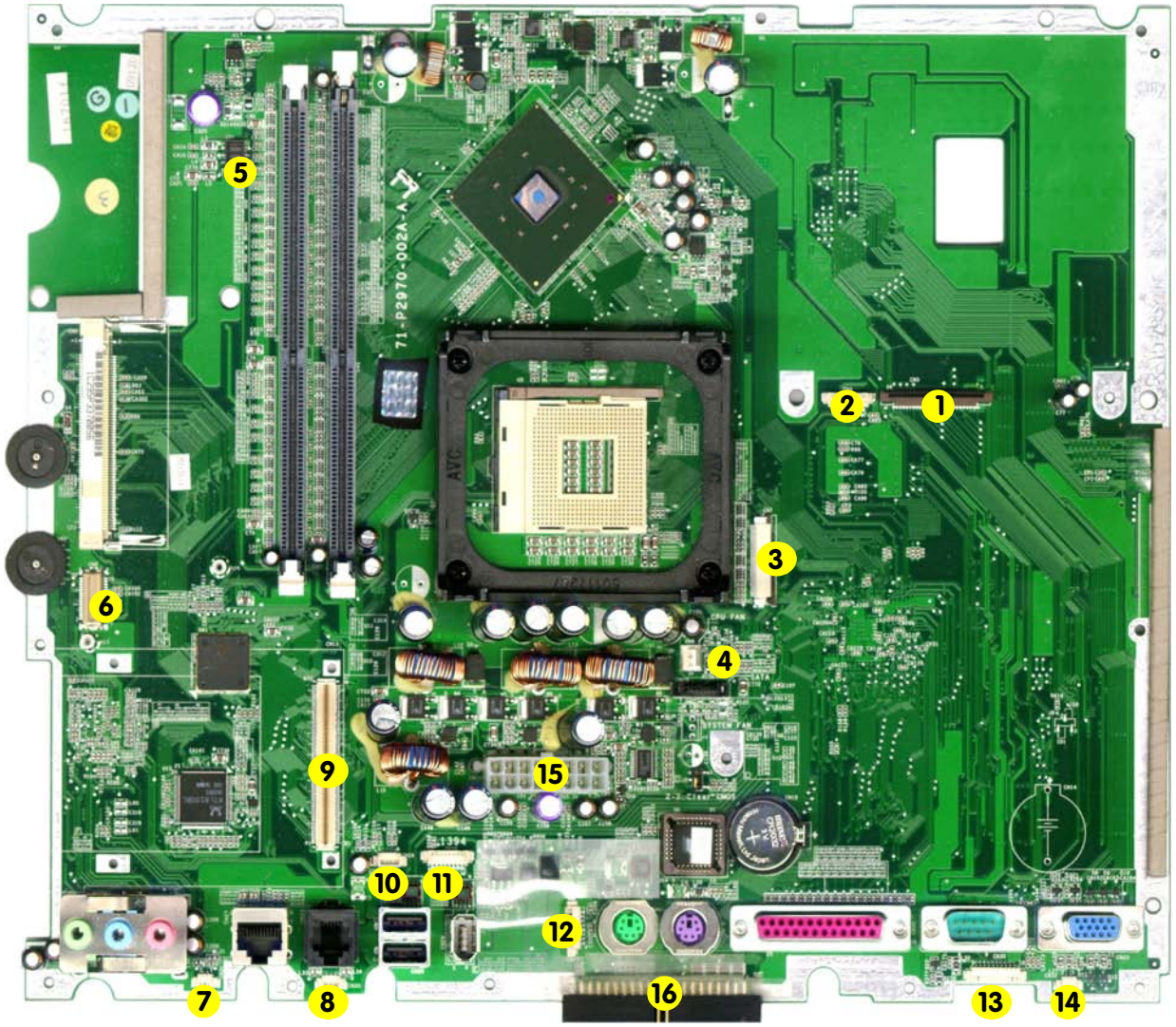


Figure 1 - 6
Mainboard Top Cable Connectors & Switches

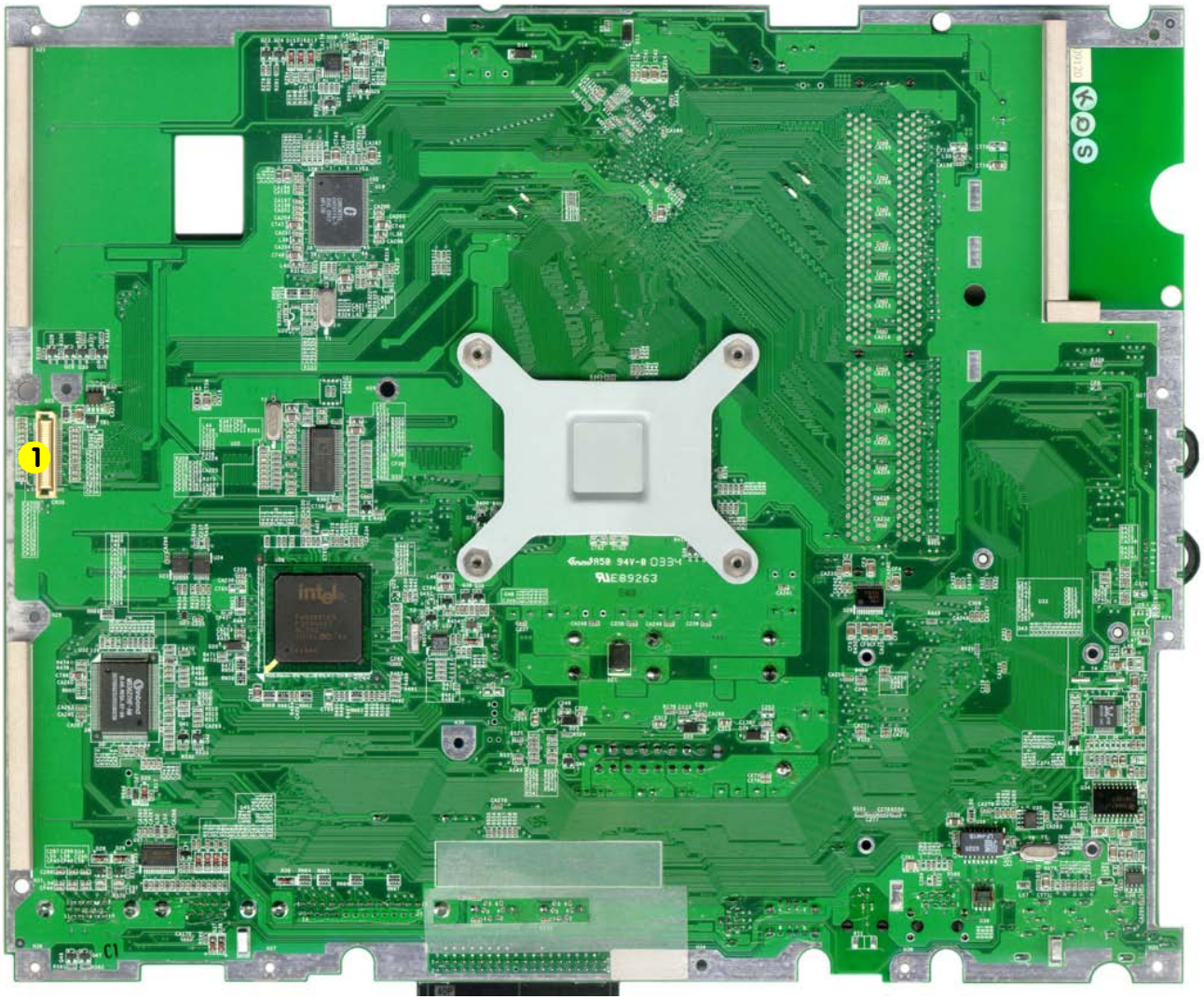
1. Floppy Disk Drive (CN5)
2. Card Reader(CN4)
3. CD/DVD Device (CN7)
4. Fan Power (CN9)
5. Inverter (CN1)
6. Modem Module
7. Speaker (CN31)
8. Modem Cable (CN33)
9. PC CARD (CN13)
10. Touch Screen (CN16)
11. IEEE1394 (CN36)
12. USB 2.0 (CN17)
13. LED Board (CN30)
14. Speaker (CN32)
15. Power (CN12)
16. Hard Disk (CN34)

Mainboard Overview - Bottom

Cable Connectors and Switches

Figure 1 - 7
Mainboard Bottom Cable Connectors & Switches

1. CN35 (LCD Connector)



2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

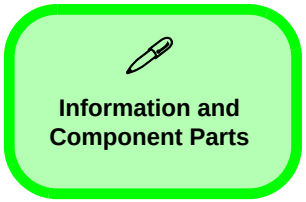
We suggest you completely review any procedure before you take the computer apart.

Procedures such as upgrading/replacing the RAM, CD device and hard disk are included in the User's Manual but are repeated here for your convenience.

To make the disassembly process easier each section may have a box in the page margin. Information contained under the figure # will give a synopsis of the sequence of procedures involved in the disassembly procedure. A box with a lists the relevant parts you will have after the disassembly process is complete. **Note**: The parts listed will be for the disassembly procedure listed ONLY, and not any previous disassembly step(s) required. Refer to the part list for the previous disassembly procedure. The amount of screws you should be left with will be listed here also.

A box with a will provide any possible helpful information. A box with a contains warnings.

An example of these types of boxes are shown in the sidebar.



NOTE: All disassembly procedures assume that the system is turned **OFF**, and disconnected from any power supply, and that all peripheral cables are disconnected (including telephone lines and network cables).

Maintenance Tools

The following tools are recommended when working on the computer:

- M3 Philips-head screwdriver
- M2.5 Philips-head screwdriver (magnetized)
- M2 Philips-head screwdriver
- Small flat-head screwdriver
- Pair of needle-nose pliers
- Anti-static wrist-strap

Connections

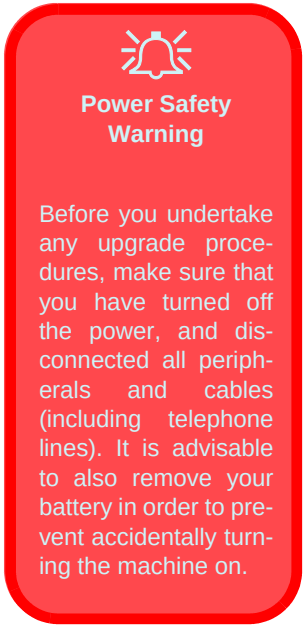
Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors	To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Pressure sockets for multi-wire connectors	To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.
Pressure sockets for ribbon connectors	To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Board-to-board or multi-pin sockets	To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

Maintenance Precautions

The following precautions are a reminder. To avoid personal injury or damage to the computer while performing a removal and/or replacement job, take the following precautions:

1. **Don't drop it**. Perform your repairs and/or upgrades on a stable surface. If the computer falls, the case and other components could be damaged.
2. **Don't overheat it**. Note the proximity of any heating elements. Keep the computer out of direct sunlight.
3. **Avoid interference**. Note the proximity of any high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage components and/or data. You should also monitor the position of magnetized tools (i.e. screwdrivers).
4. **Keep it dry**. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.
5. **Be careful with power**. Avoid accidental shocks, discharges or explosions.
   - Before removing or servicing any part from the computer, turn the computer off and detach any power supplies.
   - When you want to unplug the power cord or any cable/wire, be sure to disconnect it by the plug head. Do not pull on the wire.
6. **Peripherals** – Turn off and detach any peripherals.
7. **Beware of static discharge**. ICs, such as the CPU and main support chips, are vulnerable to static electricity. Before handling any part in the computer, discharge any static electricity inside the computer. When handling a printed circuit board, do not use gloves or other materials which allow static electricity buildup. We suggest that you use an anti-static wrist strap instead.
8. **Beware of corrosion**. As you perform your job, avoid touching any connector leads. Even the cleanest hands produce oils which can attract corrosive elements.
9. **Keep your work environment clean**. Tobacco smoke, dust or other air-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components**. When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.


Power Safety Warning
Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth.
Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Disassembly Steps

The following lists the disassembly steps, and on which page to find the related information. **PLEASE PERFORM THE DISASSEMBLY STEPS IN THE ORDER INDICATED.**

To remove the hard disk drive assembly:

1. Remove the hard disk drive assembly *page 2 - 5*

To remove the LCD back cover:

1. Remove the LCD back cover *page 2 - 6*

To remove the system memory:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the system memory *page 2 - 7*

To remove the CPU:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the CPU *page 2 - 8*

To remove the I/O Bracket:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the I/O bracket *page 2 - 10*

To remove the modem:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the I/O bracket *page 2 - 10*
3. Remove the modem *page 2 - 11*

To remove the floppy disk drive assembly:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the floppy disk drive assembly *page 2 - 12*

To remove the Mini PCI I/F module:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the Mini PCI I/F module *page 2 - 13*

To remove the L295U series CD/DVD Device:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the CD/DVD device *page 2 - 14*

To remove the L297U series CD/DVD Device:

1. Remove the LCD back cover *page 2 - 6*
2. Remove the CD/DVD device *page 2 - 15*

Removing the Hard Disk Drive Assembly

1. Turn **OFF** the computer and turn it around so that you may comfortably access the left side.
2. Remove screw 1 from the HDD Bay 2.
3. Carefully pull the HDD assembly out from the bay and disconnect the IDE cable 3, and power cable 4.
4. Turn the assembly over and remove screws (5 - 8) holding the assembly to the bay cover 9 .
5. Remove screws 10 - 15 and separate the hard disk 16 and case 17 .
6. Insert the new hard disk, and reverse the removal procedures to install the new hard disk.

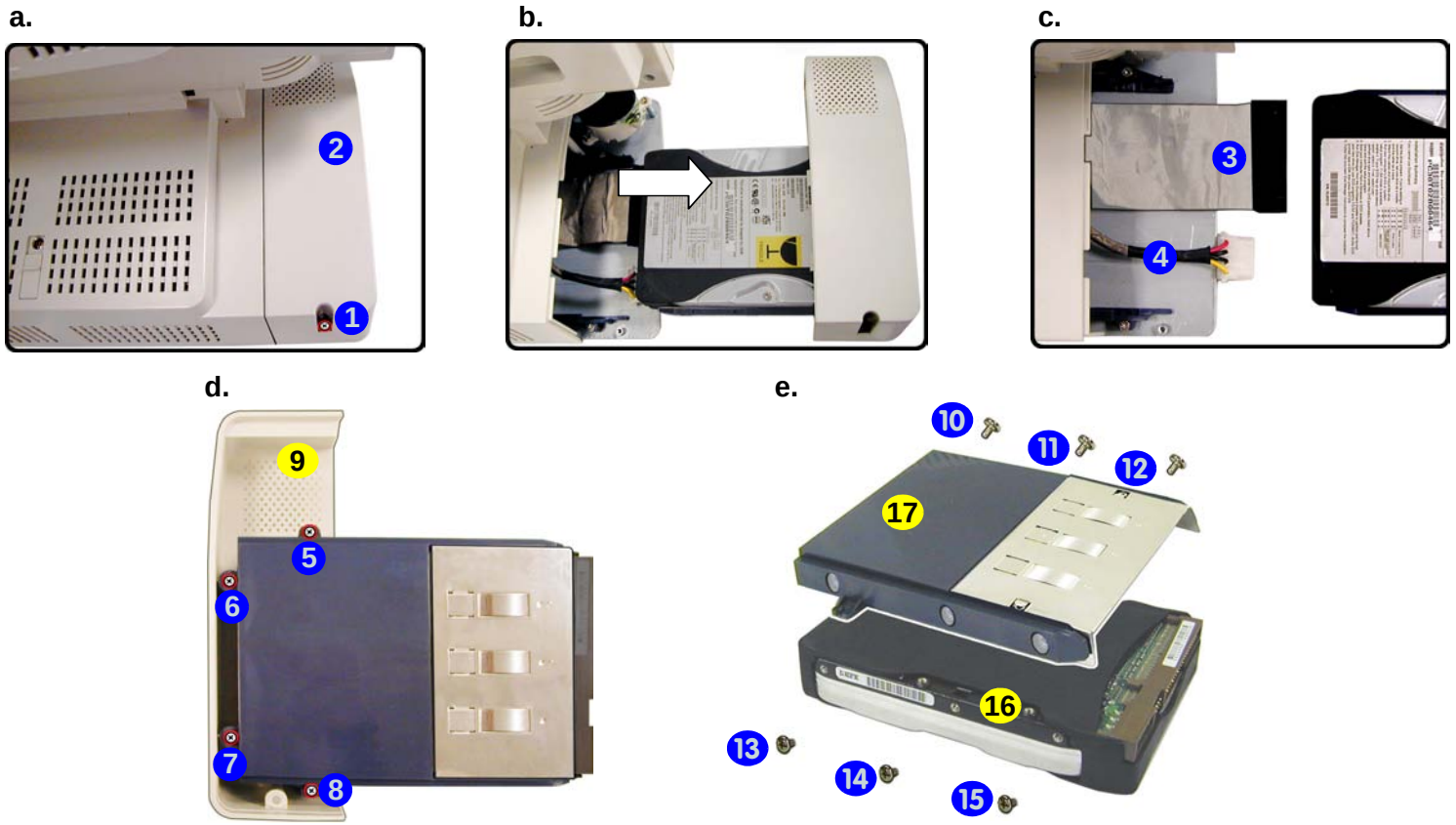


Figure 2 - 1
Hard Disk Removal Sequence

a. Remove the screw from the HDD Bay.
b. Slide the HDD assembly in the direction of the arrow.
c. Disconnect the IDE and power cables.
d. Remove the screws from the assembly.
e. Remove the screws and separate the HDD from the case.

9. HDD Bay Cover
16. HDD
17. HDD case

- 11 Screws

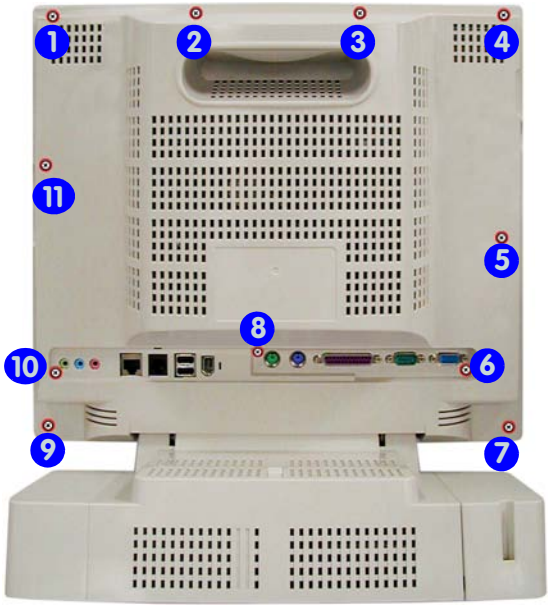
Figure 2 - 2
LCD Back Cover Removal Sequence

a. Remove the screws from the LCD back cover.
b. Lift the cover out and set it aside.

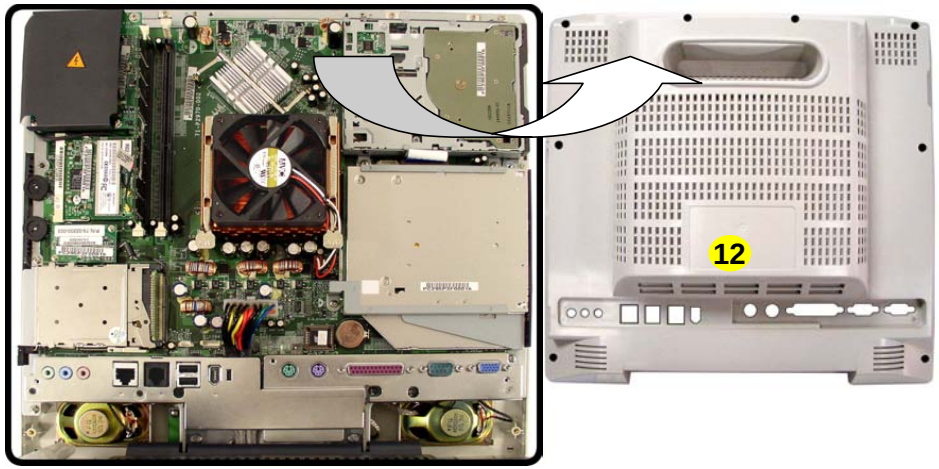
Removing the LCD Back Cover

1. Turn **OFF** the computer and place it with its LCD display facing down on a clean, dry, level surface.
2. Remove screws 1 - 11 from the LCD back cover and slide it up towards the top of the computer.
3. Carefully remove the LCD back cover 12 from the main unit and set it aside.

a.



b.



12. LCD back cover

- 11 Screws

Removing the System Memory

1. Remove the LCD back cover (*page 2 - 6*).
2. The memory sockets will be visible at point 1 on the mainboard.
3. For each module you want to replace, gently pull the latches 2 and 3 toward the sides of the socket to release the module.
4. The module 4 will pop-up, and you can remove it.
5. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.

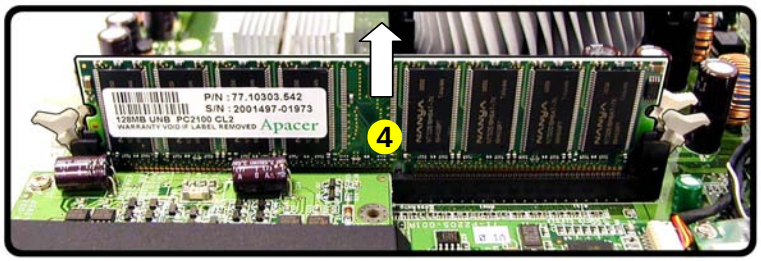
Figure 2 - 3
Memory Removal Sequence

a. Locate the memory sockets.
b. Pull the latch(es) on the memory sockets to release the module(s).
c. When the module pops up, lift it out.

a.

b.

c.



4. Memory module(s)

Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

Figure 2 - 4
CPU Removal Sequence

a. Release the latches from the top of the CPU heat sink and fan unit.
b. Remove the latches.
c. Release the power cable.
d. Lift the heat sink & fan unit out.

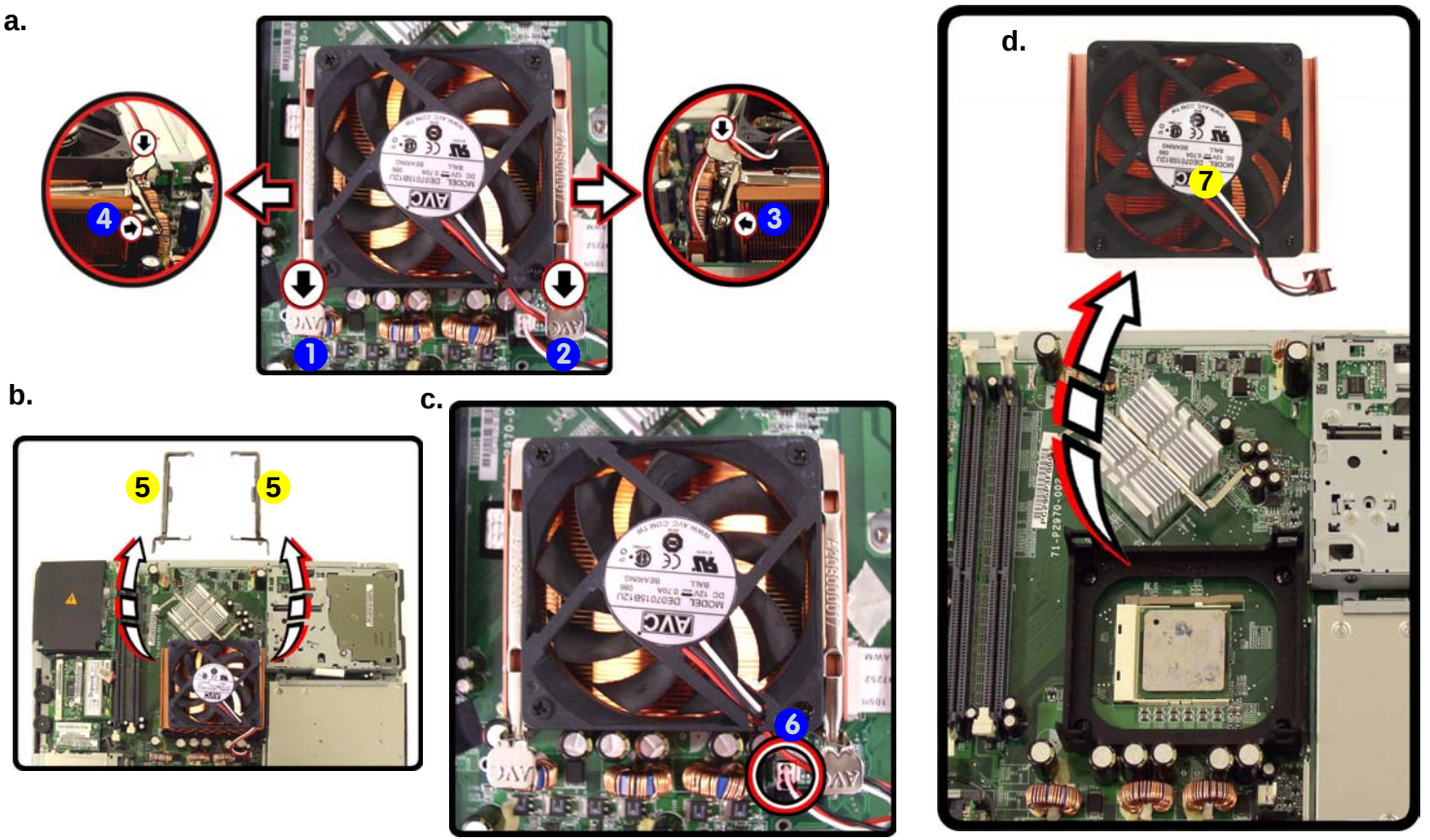
Caution

The heat sink, and CPU area in general, contains parts which are subject to high temperatures - Please allow the area time to cool before removing these parts.

5. Brackets
7. Heat Sink & Fan

Removing the CPU

1. Remove the LCD back cover (*page 2 - 6*).
2. Press down and hold each of the latches 1 & 2 (on the top of the CPU heat sink and fan unit) in turn.
3. With the latch held down you will be able to release the brackets (at points 3 & 4), and then ease the brackets 5 off the fan unit.
4. Release the power cable 6 from the board and lift out the CPU heat sink fan unit 7.

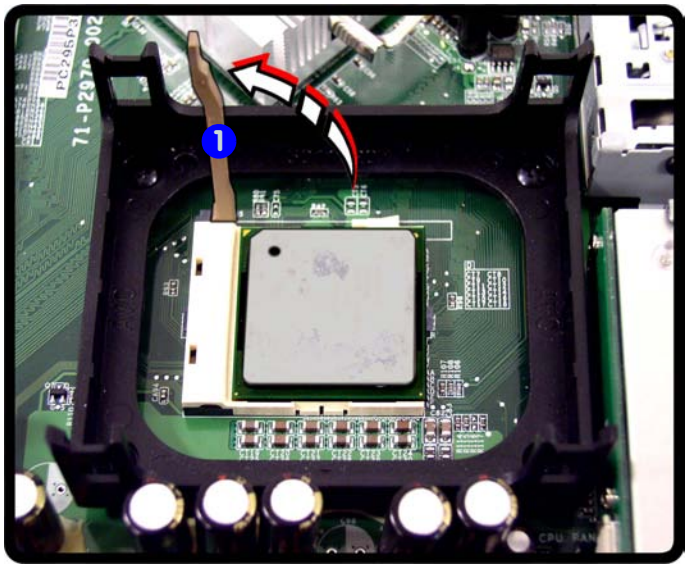


5. Move the latch 1 fully in the direction indicated in to unlock the CPU.
6. Carefully (it may be hot) lift the CPU 3 up out of the socket.
7. When re-inserting the CPU pay careful attention to the pin alignment, it will fit only one way (don't force it!).

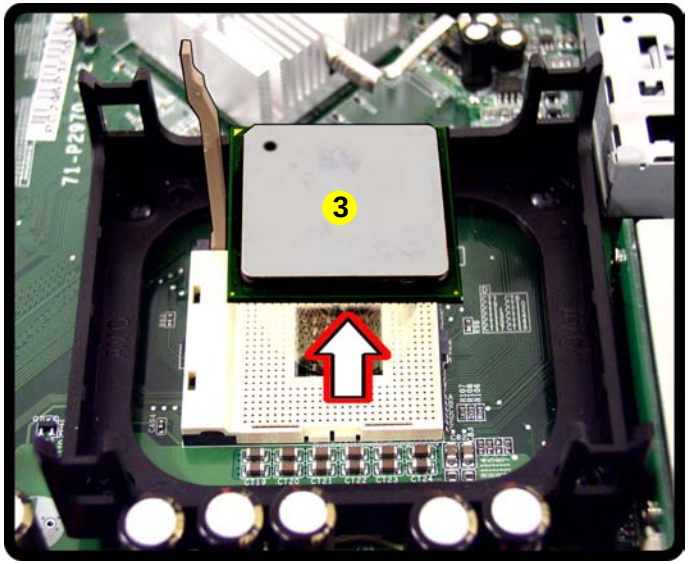
Figure 2 - 5
CPU Removal Sequence (cont'd)

a. Lift the latch to unlock the CPU.
b. Lift the CPU out of the socket.

a.



b.



3. CPU

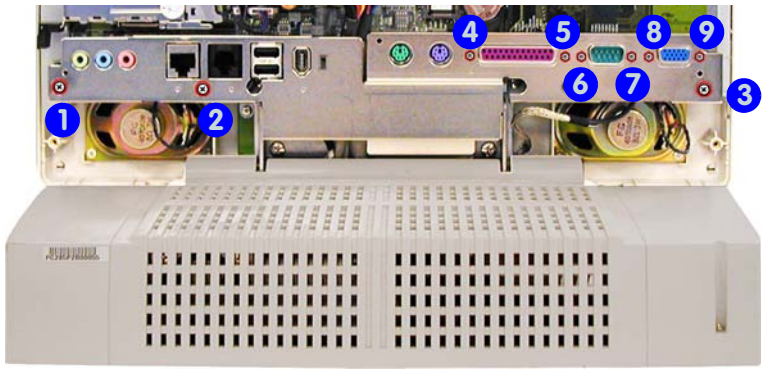
Figure 2 - 6
I/O Bracket Removal Sequence

a. Remove the screws from the I/O bracket.
b. Lift the I/O bracket up off the mainboard.

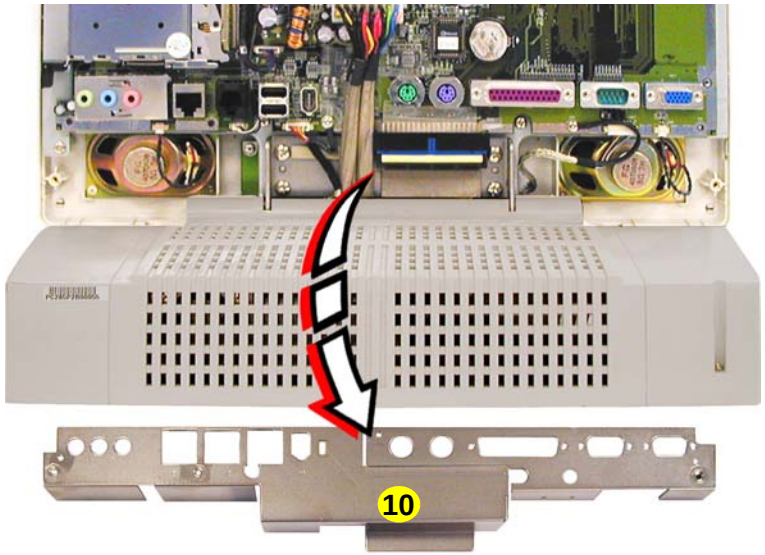
Removing the I/O Bracket

1. Remove the LCD back cover (*page 2 - 6*).
2. Remove the standard screws 1 - 3, and use long-nosed pliers or a nutdriver to remove the hex socket connector type screws 4 - 9.
3. Carefully ease the I/O bracket 10 off the mainboard.

a.



b.



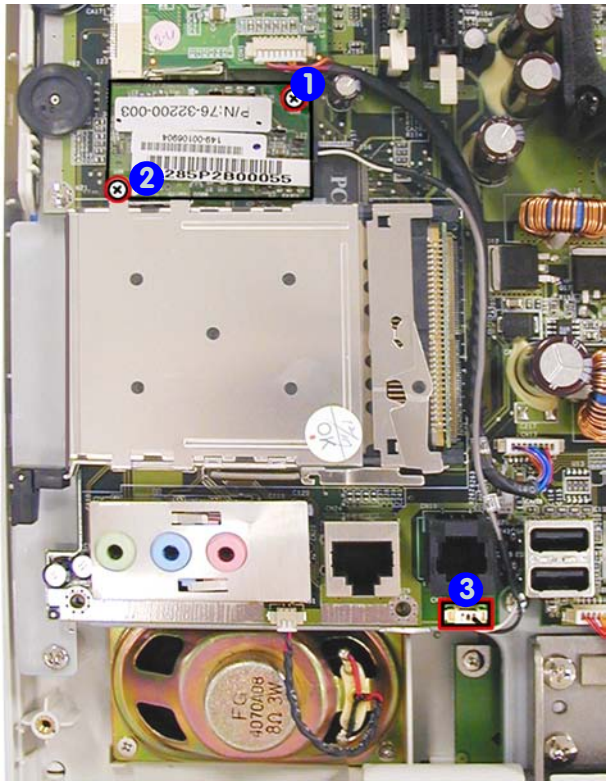
10. I/O bracket

9 Screws

Removing the Modem

1. Remove the LCD back cover (*page 2 - 6*) and I/O bracket (*page 2 - 10*).
2. Remove screws 1 and 2 from the modem module and disconnect the modem cable at point 3.
3. Disconnect the modem module 4 from the connector socket 5, and lift it and the modem and cable 6 off the mainboard.

a.



b.

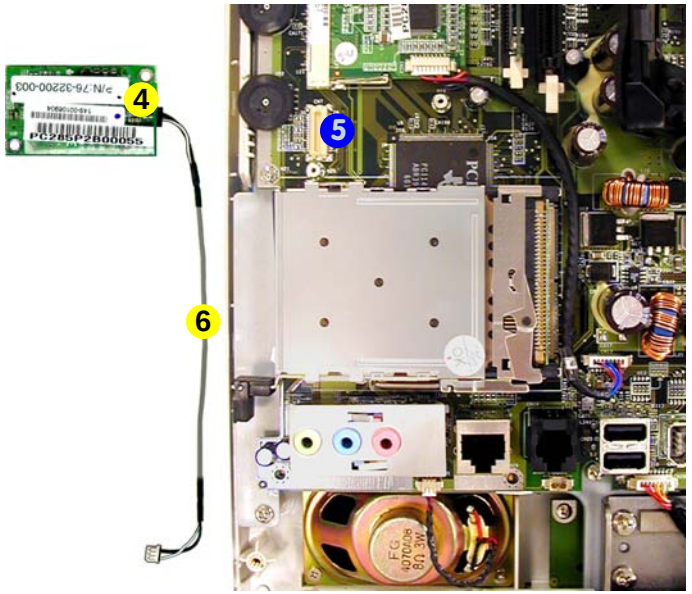


Figure 2 - 7
Modem Removal Sequence

a. Remove the screws from the modem unit, and disconnect the cable.
b. Lift the modem and cable off the board.

4. Modem module
6. Modem cable

- 2 Screws

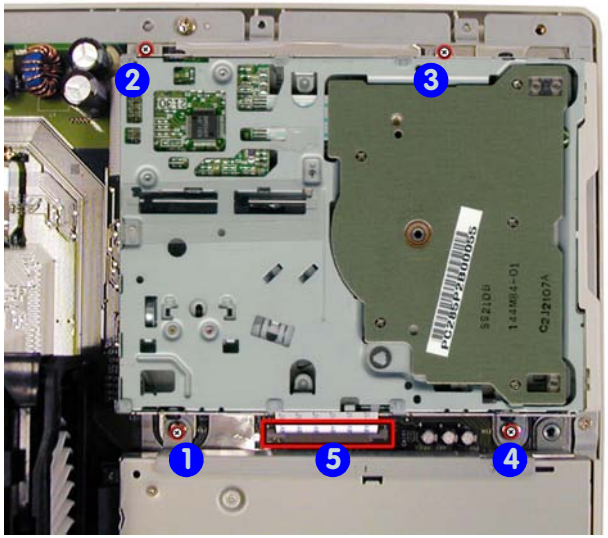
Removing the Floppy Disk Drive Assembly

1. Remove the LCD back cover (*page 2 - 6*).
2. Remove screws 1 - 4 from the floppy disk drive assembly.
3. Carefully disconnect the floppy disk drive ribbon cable at point 5.
4. Lift the floppy disk drive assembly 6 off the mainboard.

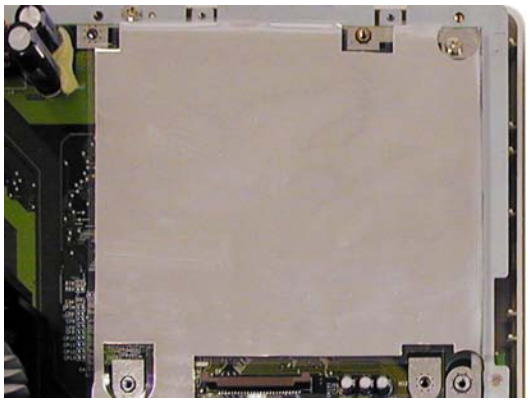
Figure 2 - 8
Floppy Disk Drive Assembly Removal Sequence

a. Remove the screws from the FDD assembly and disconnect the FDD ribbon cable.
b. Lift the FDD assembly off the board.

a.



b.



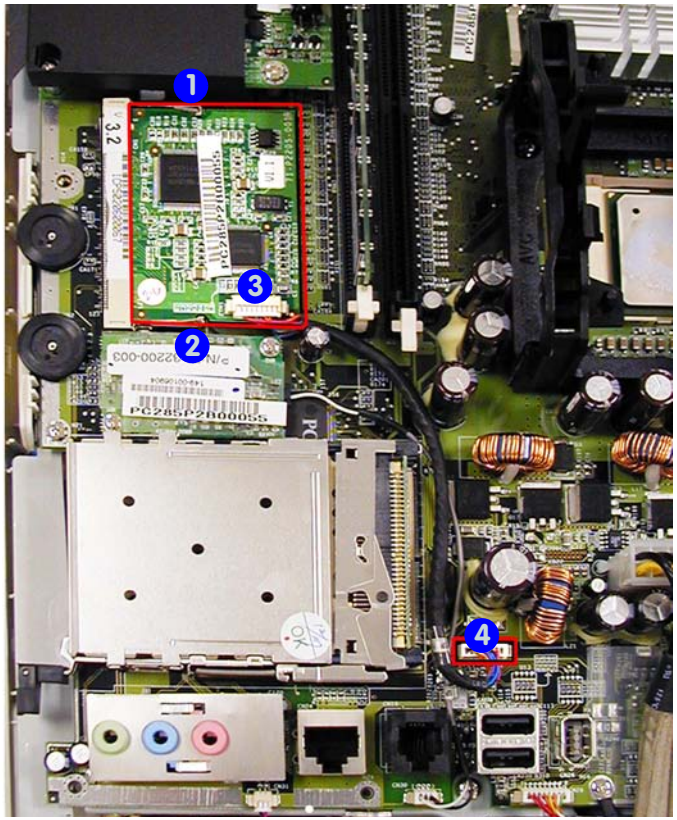
6. FDD Assembly

- 4 Screws

Removing the Mini PCI I/F Module

1. Remove the LCD back cover (*page 2 - 6,*).
2. Release the pins at points 1 & 2 and carefully lift up the Mini PCI I/F module.
3. If the module is the **Mini PCI/IF 1394** (pictured):
   Disconnect the cable at point 3 (and 4 if necessary), then lift Mini PCI I/F module 5 and cable 6 off the mainboard.
4. If the module is the **Mini PCI WLAN** (not pictured):
   Disconnect the antenna cables at the **RF Main** and **RF Aux** points on the module, then lift Mini PCI I/F module off the mainboard.

a.



b.

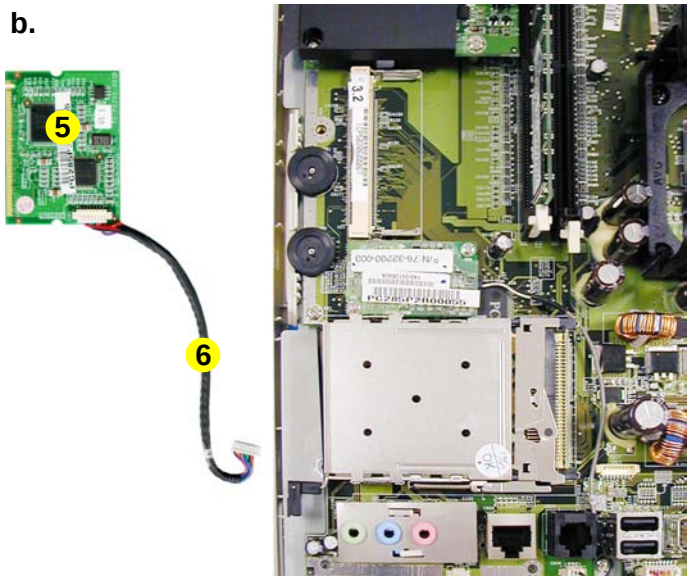


Figure 2 - 9
Mini PCI I/F Module Removal Sequence

a. Release the pins and carefully lift the Mini PCI I/F module up.
b. Disconnect the cable(s) and lift the Mini PCI I/F module up and out from the mainboard.

5. Mini PCI I/F module
6. Cable (1394 module only)

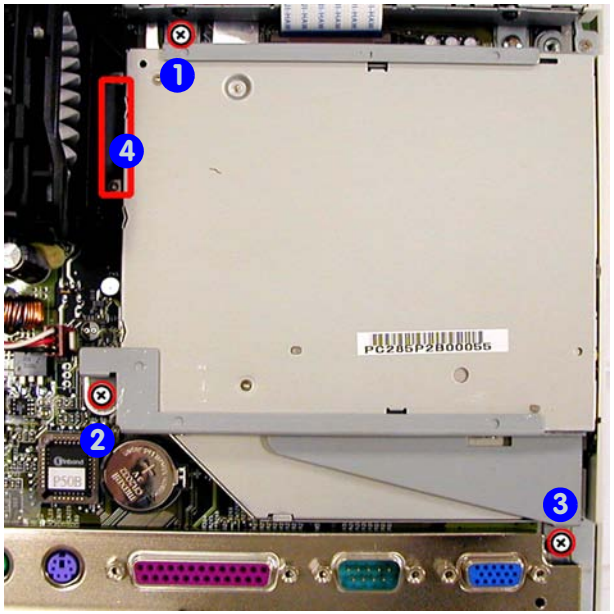
Removing the CD Device Assembly (L295U Series)

1. Remove the LCD back cover (*page 2 - 6*).
2. Remove screws 1 - 3, and disconnect cable 4, from the CD device.
3. Remove the CD Device 5 .

Figure 2 - 10
L295U CD Device Assembly Removal Sequence

a. Remove the screws and disconnect the cable.
b. Remove the CD Device.

a.



b.

5. CD Device

- 3 Screws

Removing the CD Device Assembly (L297U Series)

1. Turn the computer **OFF** and turn it around so that you may comfortably access the rear.
2. Locate the CD-ROM eject switch and remove screw 1.
3. Push the CD-ROM eject switch to slide the CD device assembly out of the bay.
4. Remove the CD Device 2 .

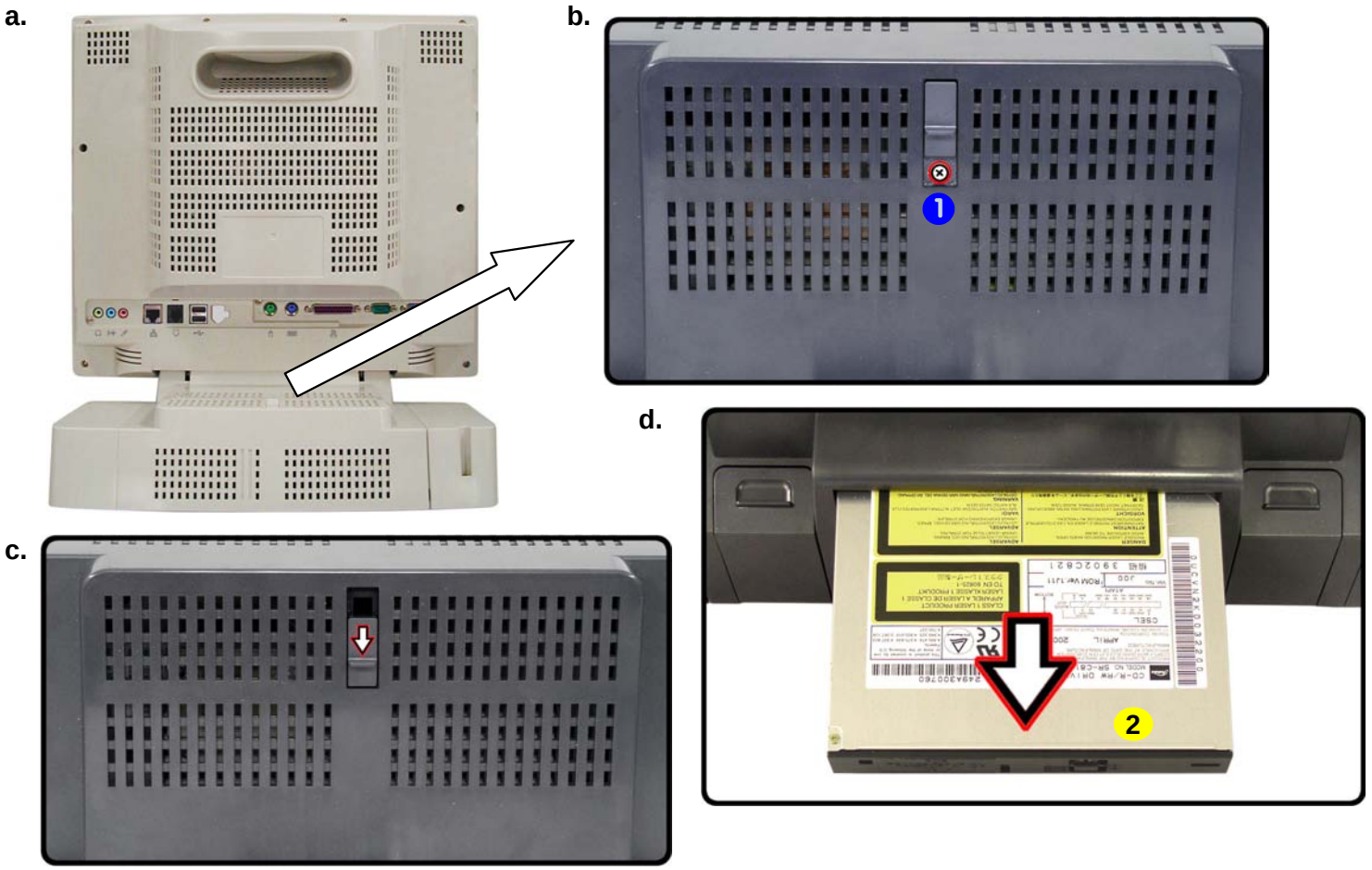


Figure 2 - 11
L297U CD Device Assembly Removal Sequence

a. Locate the CD-ROM eject switch at the rear of the computer.
b. Remove the screw.
c. Push the switch to slide the CD Device Assembly out of the computer.
d. Remove the CD Device.

2. CD Device

- 1 Screw

Appendix A: Part Lists

This appendix breaks down the computer's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

Note: This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

Note: Some assemblies may have parts in common (especially screws). However, the part lists DO NOT indicate the total number of duplicated parts used.

Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

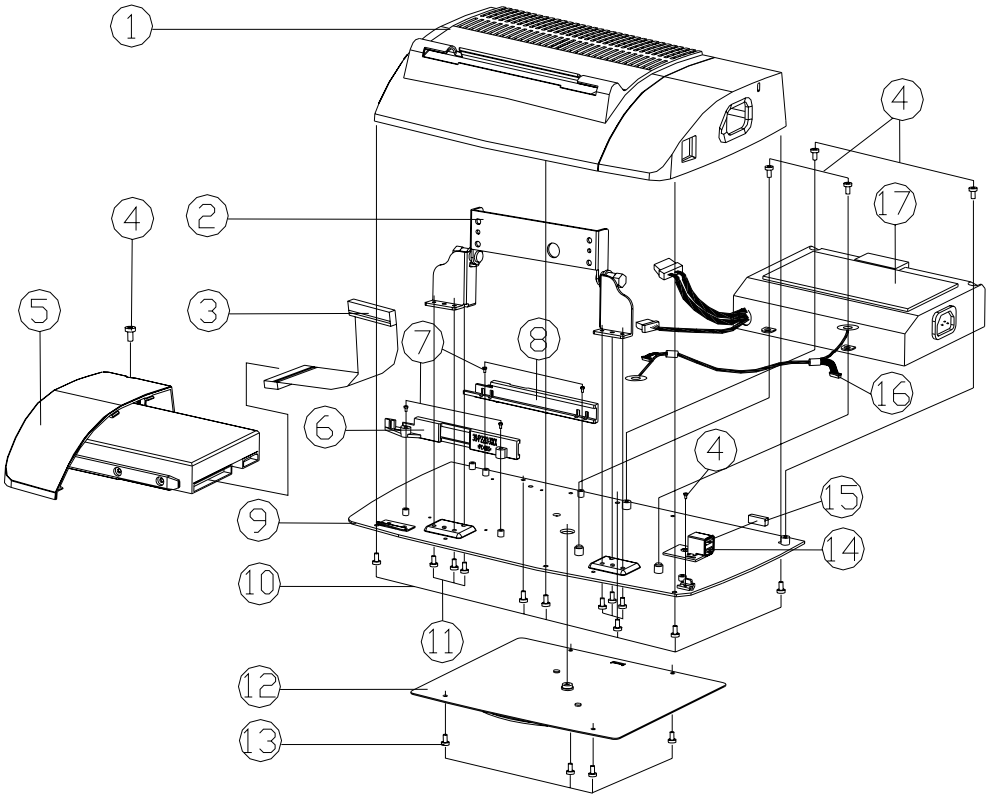
Part List Illustration Location

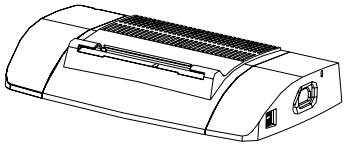
The following table indicates where to find the appropriate part list illustration.

Table A - 1
Part List Illustration Location

Part	L295U - Page #	L297U - Page #
Base	*page A - 3*	*page A - 11*
Back	*page A - 4*	*page A - 12*
Front	*page A - 5*	*page A - 13*
Card Reader Module	*page A - 6*	*page A - 14*
CD-ROM		*page A - 15*
Combo	*page A - 7*	*page A - 16*
DVD	*page A - 8*	
DVD-RW		*page A - 17*
FDD	*page A - 9*	*page A - 18*
HDD	*page A - 10*	*page A - 19*
Video Capture Card Module		*page A - 20*

L295U - Base





ITEM	PART NAME	PART NO	REMARK
1	BASE COVER MODULE L285PB (BL2164/黑色)	39-P5203-012	
2	HINGE MODULE SUS LP200	79-P220Y-014	
3	FLAT CABLE FOR HDD 40P L285P	43-P5001-012	
4	SCREW M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
5	HDD COVER (W/O HDD) ASS'Y L295PB	79-P2951-010	
6	HDD HOLDER (B) PC/ABS LP200	39-P2213-001	
7	SCREW M3*6L KI NI ICT NY	35-B1130-6RA	
8	HDD HOLDER (A) PC/ABS LP200	39-P2212-001	
9	BASE BRACKET SECC L285P	33-P5003-010	
10	SCREW M3*6L F NI ICT NY	35-21130-6RA	
11	SCREW M3*0.5P*6L B NI ICT NY	35-04130-6R0	
12	STAND MODULE LP260/L285P	79-P220E-017	
13	SCREW M3*3L B NI ICT	35-41130-3RA	
14	EXT. USB BOARD L287S/P/L285S	77-P7A03-001	
15	GASKET (L15*W10*H6.5mm)	47-00190-154	FOR BASE ASS'Y
16	Ext. USB2.0 CABLE L285S	43-P5A0C-010	
17	POWER SUPPLY 160W EP4160 L285P	51-P5003-025	

Figure A - 1
L295U - Base

L295U - Back

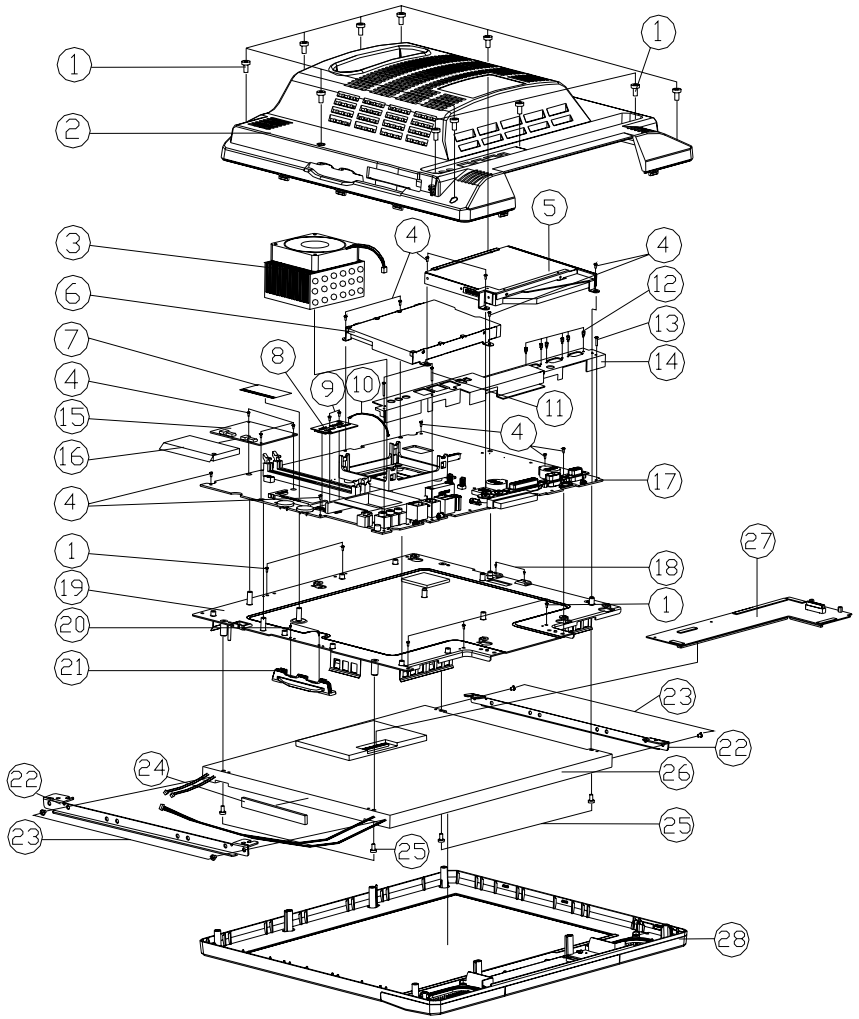
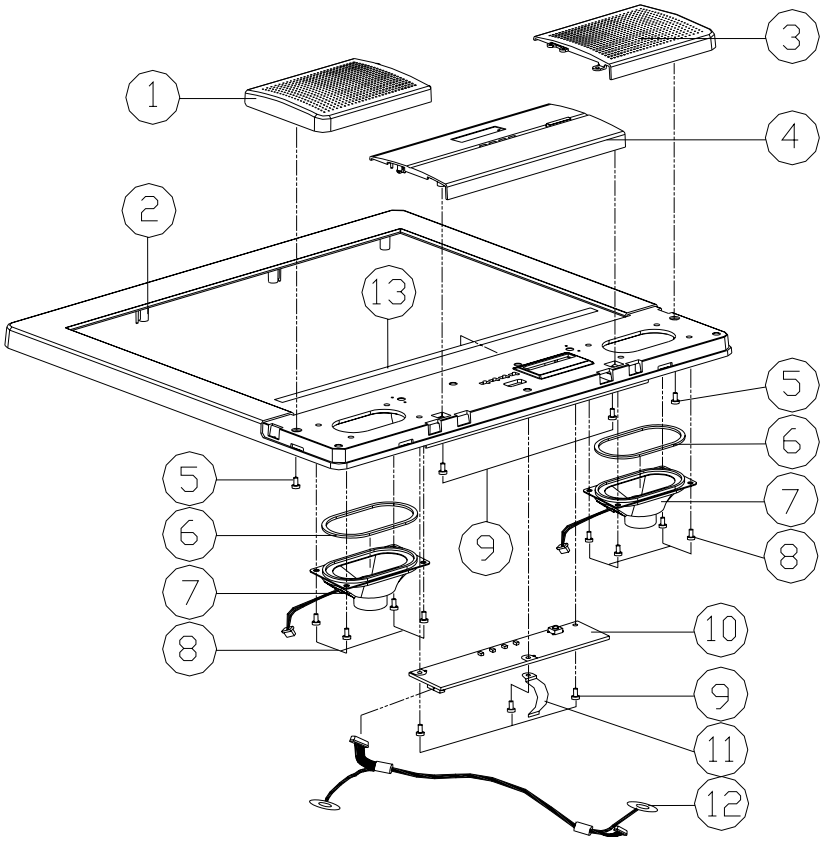
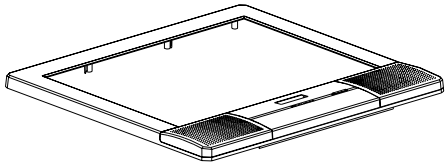


Figure A - 2
L295U Back

ITEM	PART NAME	PART NO	REMARK
1	M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
2	LCD BACK COVER MODULE L295PB	39-P2951-020	
3	HEATSINK MODULE W/FAN(70*70*15MM 5700RPM)	31-P25UN-100	AVC-ZF0703B15 L295UX
4	SCREW M2.5*5L B NI ICT	35-41125-5R0	
5	DVD ASS'Y L295PB	79-P295V-010	TDS. 8X DVD
5	COMBO ASS'Y L295PB	79-P295X-010	SAMSUNG 24X
6	FDD ASS'Y L295PB	79-P295J-010	
7	WIRELESS LAN ASS'Y L297PB	79-P5020-010	
8	MDC MODEM ASS'Y L297PB	79-P297U-020	
9	SCREW M2*0.4P*3L B NI ICT	35-41120-3R0	
10	WIRE CABLE FOR MDC MODEM L287P	43-P700U-010	
11	SCREW M2.5*23L K1 NI ICT	35-B1125-230	
12	HEX STUD SUM22 NI-PL 10mm	34-96002-000	
13	SCREW M2.5*14L K1 NI ICT	35-B1125-14A	
14	I/O BRACKET+GASKET MODULE,SECC L295UX	33-P25US-100	
15	INVERTER BOARD FOR AU V2.0 L285P	77-P500R-032	
16	INVERTER MYLAR PC L297P	40-P297S-010	
17	MAIN BOARD	77-P2950-D0X	
18	SCREW M2*4L K1 NI ICT	35-B1120-4RB	
19	LCD BRACKET FOR SHARP 150*SIDE,SECC L285S	33-P5A01-030	
20	SCREW M2*5L K1 NI ICT	35-B1120-5RA	
21	VR COVER L285PA	42-P517B-011	
22	LCD BRACKET (R&L) FOR AUX(150XN07) L295P	33-P2951-040	
23	SCREW M2*4L F NI ICT	35-21120-4R0	
24	SPONGE (L100*W15*H6) FOR PANEL L287P	47-0019A-101	
25	M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
26	LCD 15" XGA TFT AU M150XN07 12.0MM	50-L22C0-G01	
27	LCD CONVERTER BOARD FOR AU150 L295S	77-P5A06-032	
28	LCD F-CVR ASS'Y FOR SHARP/CMI M01 L285PB	79-P5201-001	

L295U - Front



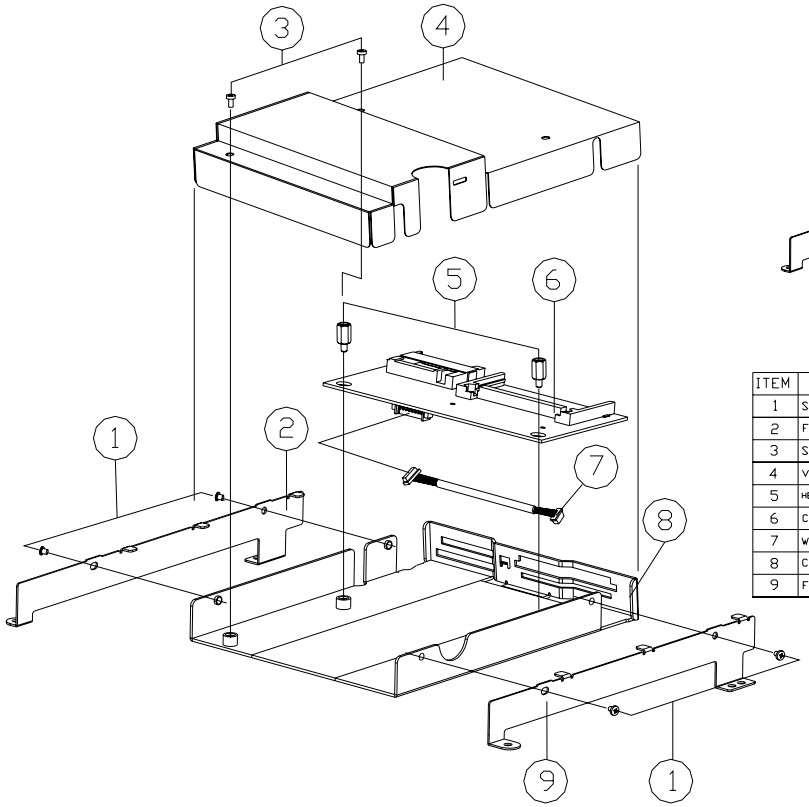


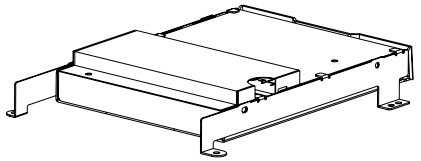
ITEM	PART NAME	PART NO	REMARK
1	SPEAKER COVER (L) MODULE L285PB	42-P527T-100	
2	LCD F-CVR MODULE FOR CHI/HYU/SHARP L285PB	39-P5201-010	
3	SPEAKER COVER (R) MODULE L285PB	42-P527T-200	
4	CONTROL PANEL MODULE L285PB	42-P5291-101	
5	SCREW M2.5*4L B BNI ICT	35-49125-4R0	
6	SPEAKER RUBBER, SILICONE LP200	47-P2202-000	
7	SPK+CON. 71W*41D*28.7H 3W	23-5A230-13A	
8	SCREW M3*4L K1 NI ICT	35-B1130-4RB	
9	SCREW M2.5*5L B NI ICT	35-41125-5R0	
10	LED BOARD	77-P5004-001	
11	SPRING PLATE FOR LED BOARD(7404-02R)H=21	38-P500S-010	
12	WIRE CABLE FOR LED SIGNAL 10P L285P	43-P500F-011	
13	SPONGE (300*8*0.5t) FOR F-CVR L285P	47-0019A-300	

Figure A - 3
L295U - Front

L295U - Card Reader Module

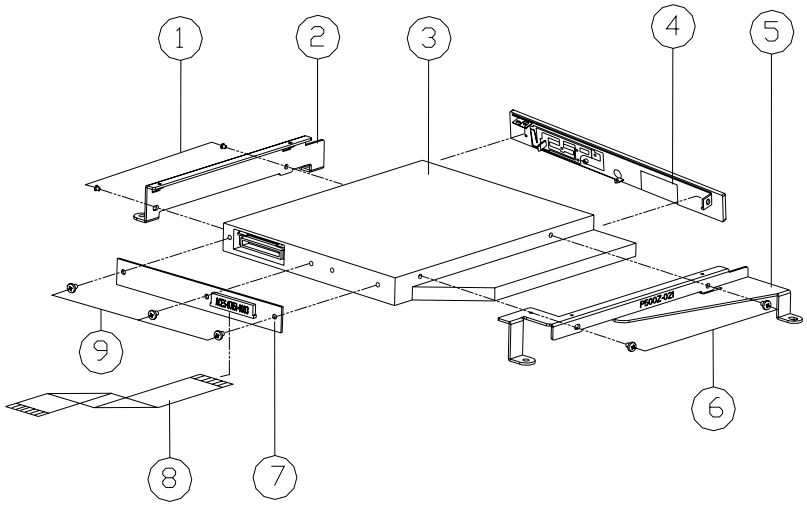
Figure A - 4
L295U - Card Reader Module

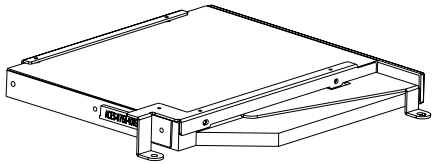




ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*3L P BZ ICT NY	35-06125-3R0	
2	FDD BRACKET (R) SECC L285P	33-P500J-012	
3	SCREW M2.5*5L F MI ICT	35-21125-5RA	
4	VIDEO CAPTURE BRACKET COVER FOR EMI	33-P297V-010	
5	HEX STUD SUM22 NI-PL F=M2.5 116M L297P	34-P297E-010	
6	CARD READER MODULE V1.0 FOR D470W	88-D47E0-430	
7	WIRE CABLE FOR CARD READER L297P	43-P297E-010	
8	CARD READER BRACKET SECC L297P	33-P297J-021	
9	FDD BRACKET (L) SECC L285P	33-P500J-022	

L295U - Combo



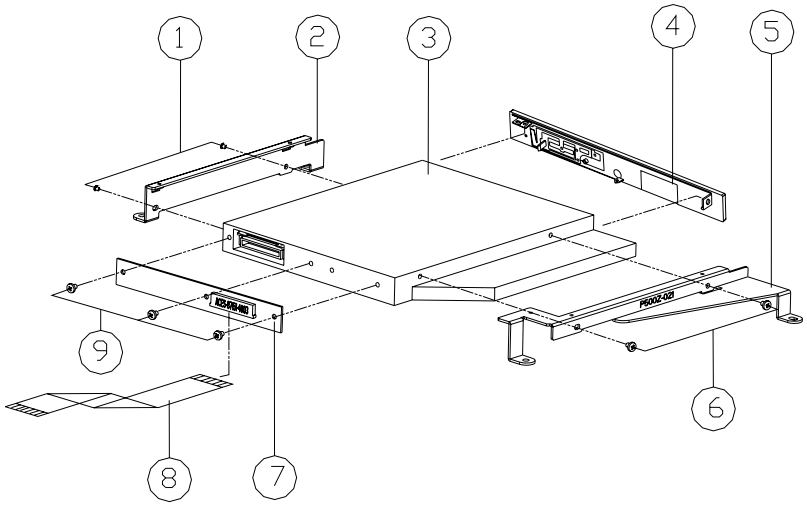


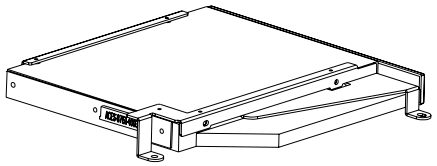
ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	
2	CD-ROM BRACKET (R) SECC L285P	33-P295Z-041	
3	CD-RW/DVD 5 1/4" 24X 12.7mm SN324 SAMSUNG	85-9070X-S00	
4	COMBO BEZEL MODULE FOR SAMSUNG	42-P517X-400	
5	CD-ROM BRACKET (L) SECC L285P	33-P500Z-030	
6	SCREW M2*3.5L F BNI ICT NY	35-21120-35B	
7	CD-ROM TRANSFER BOARD FOR DST L295P	77-P295N-001	
8	FFC CABLE FOR CD-ROM L295P	43-P295Z-010	
9	SCREW M2*0.4P*4L B NI ICT	35-41120-4R0	

Figure A - 5
L295U - Combo

L295U - Toshiba DVD

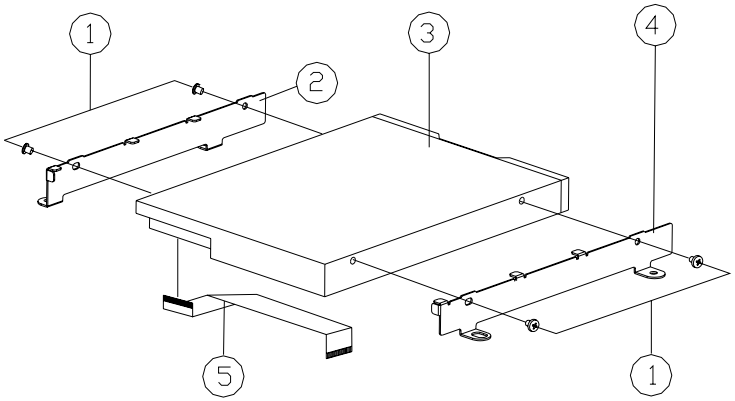
Figure A - 6
L295U - Toshiba DVD

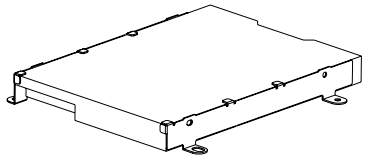




ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	
2	CD-ROM BRACKET (R) SECC L285P H=12.6	33-P500Z-022	
3	DVD 5 1/4" 8X 12.7mm TOSHIBA	85-7078X-T04	SD-C2612-10 E
4	TOSHIBA DVD BEZEL MODULE	39-P227V-024	
5	CD-ROM BRACKET (L) SECC L285P	33-P500Z-030	
6	SCREW M2.0*3L F NI ICT NY	35-21120-35B	
7	CD-ROM TRANSFER BOARD FOR DST L295P	77-P295N-001	
8	FFC CABLE FOR CD-ROM L295P	43-P295Z-010	
9	SCREW M2*0.4P*4L B NI ICT	35-41120-4R0	

L295U - FDD



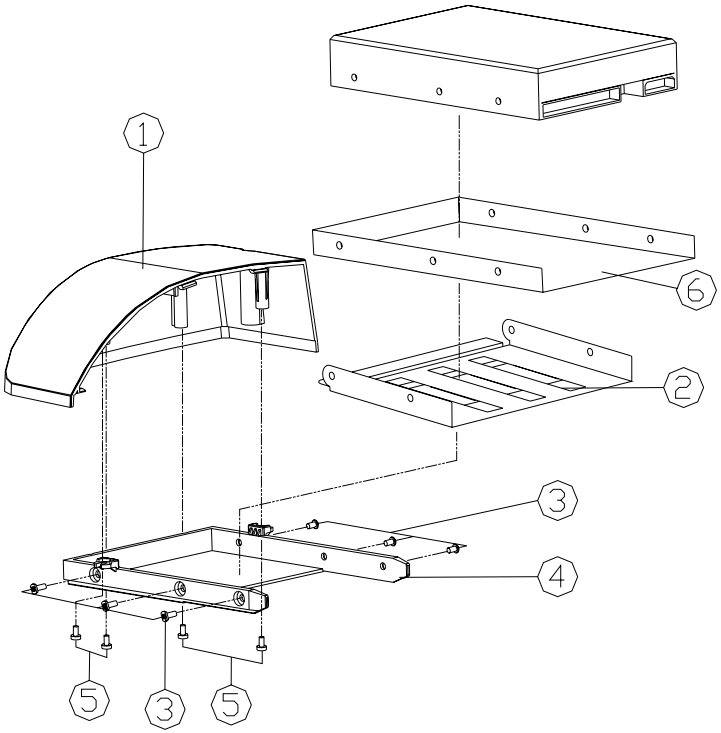


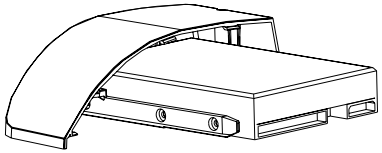
ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*3L P BZ ICT NY	35-06125-3R0	
2	FDD BRACKET (R) SECC L285P	33-P500J-012	
3	FDD 3.5" 1.44MB 12.7mm YD-702J-6637J-644761	85-11700-Y06-1	
4	FDD BRACKET (L) SECC L285P	33-P500J-022	
5	FFC CABLE FOR FDD L285P	43-P500J-013	

Figure A - 7
L295U - FDD

L295U - HDD

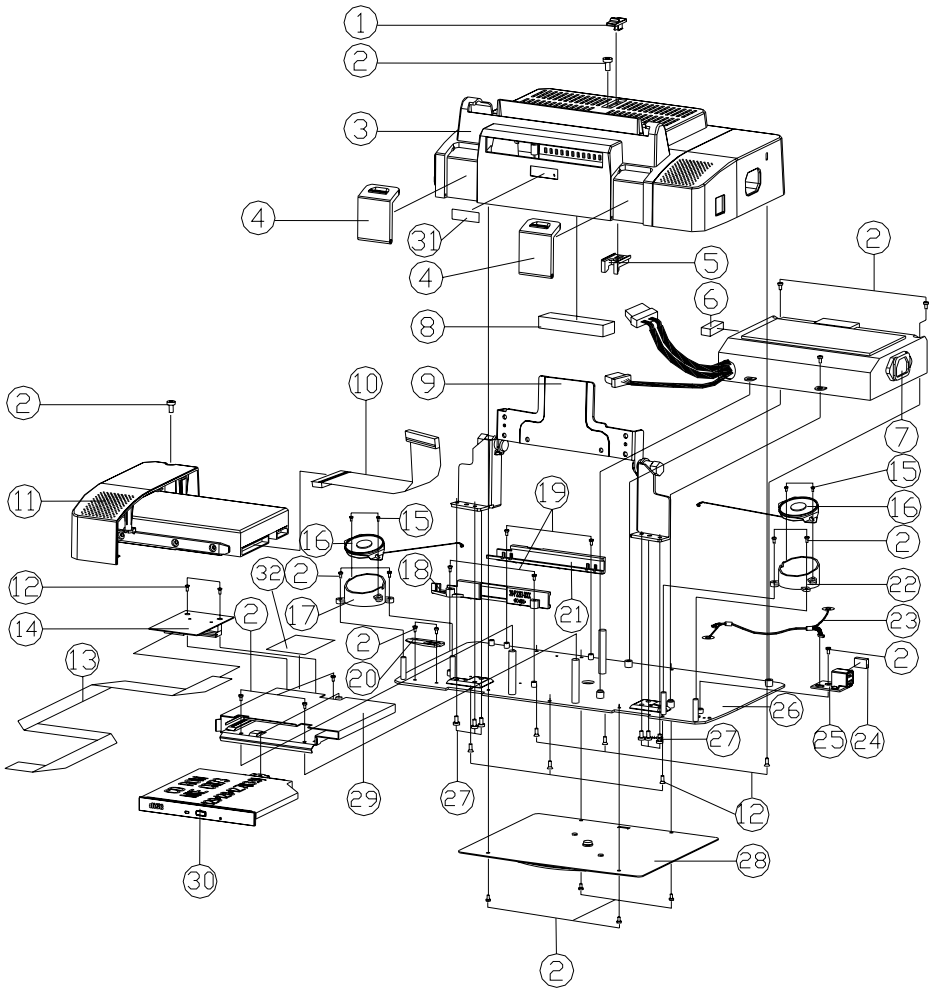
Figure A - 8
L295U - HDD

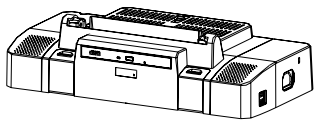




ITEM	PART NAME	PART NO	REMARK
1	HDD COVER L285PB	42-P527I-012	
2	HDD SHIELDING PLATE	33-P2C0I-010	
3	SCREW #6-32*5L B NI ACT	35-41306-5R0	
4	HDD HOLDER PC/ABS LP200	39-P2211-001	
5	M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
6	HDD SHIELDING AL FOIL L285P	47-P507I-011	

L297U - Base





ITEM	PART NAME	PART NO	REMARK
1	CD-ROM EJECT KNOB PC/ABS L287P	42-P708Z-023	外包
2	SCREW M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
3	BASE COVER L287PB	39-P7203-013	外包
4	K/B TRAY PC/ABS L287P	42-P7037-012	外包
5	CD-ROM EJECT LOCK PC/ABS L287P	42-P708Z-012	
6	GASKET (L30*W10*H15mm) L287P	47-00190-309	
7	POWER SUPPLY 160W EP4160B RF EDAC L297P	51-P7003-026	外包
8	GASKET (L60*W10*H10.5mm)	47-00190-607	
9	HINGE MODULE FOR 17" L287P	33-P707Y-100	
10	FLAT CABLE FOR HDD 40P L285P	43-P5001-012	
11	HDD COVER+V/G HDD ASS'Y L287PB/PC/SD/L285SE	79-P7021-010	
11	HDD COVER PC/ABS L287PB(BL256)	42-P7271-021	
12	SCREW M3*6L F NI ICT NY	35-21130-6RA	
13	FFC CABLE FOR CD-ROM L297P	43-P297Z-010	
14	CD-ROM TRANSFER BD TO CD-ROM	77-P7A0N-002	
15	SCREW M2.5*5L B NI ICT	35-41125-5R0	
16	SPK.WITH CABLE 40mm 2W 8 FG-40N08EP	23-54020-241	
17	SPEAKER BOX-L PC/ABS L287P	42-P707T-021	
18	HDD HOLDER (B) PC/ABS LP200	39-P2213-001	
19	SCREW M3*6L KI NI ICT NY	35-B1130-6RA	
20	HDD COVER GUIDE PC/ABS L287P	42-P7071-010	
21	HDD HOLDER (A) PC/ABS LP200	39-P2212-001	
22	SPEAKER BOX-R PC/ABS L287P	42-P707T-011	
23	Ext. USB2.0 CABLE L285S	43-P5A0C-010	
24	GASKET (L150*W10*H6.5mm) FOR BASE ASS'Y LP2	47-00190-154	
25	Ext. USB BOARD	77-P7A03-001	
26	BASE METAL SECC L287P	33-P7003-021	
27	SCREW M4*8L KI NI ICT W/WAS NY	35-B1040-8RA	
28	STAND MODULE SECC L287P	33-P7073-101	
29	CD-ROM BRACKET SECC L287P	33-P700Z-013	
30	CD-ROM ASS'Y (OPTION)	79-P702Z-010	
31	LCD PC LOGO L287P	45-P7001-010	
32	超薄遮罩 t=0.2mm FOR CD-ROM PCB L297PX	47-P297S-010	

Figure A - 9
L297U - Base

L297U - Back

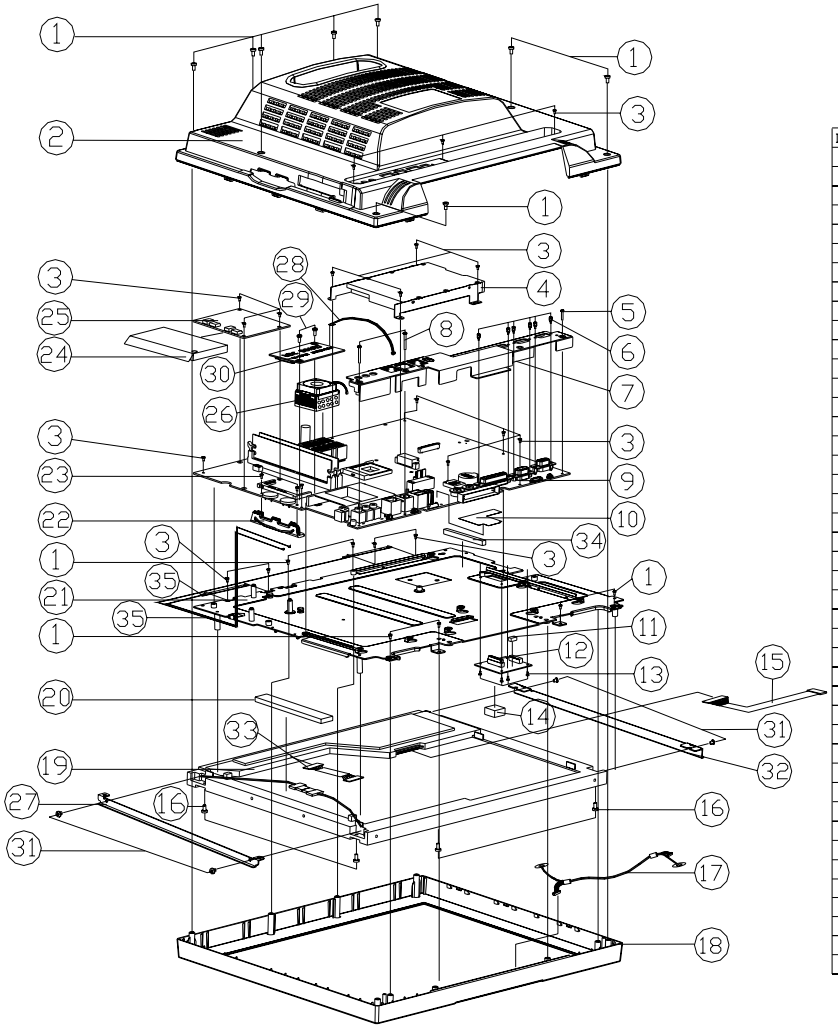
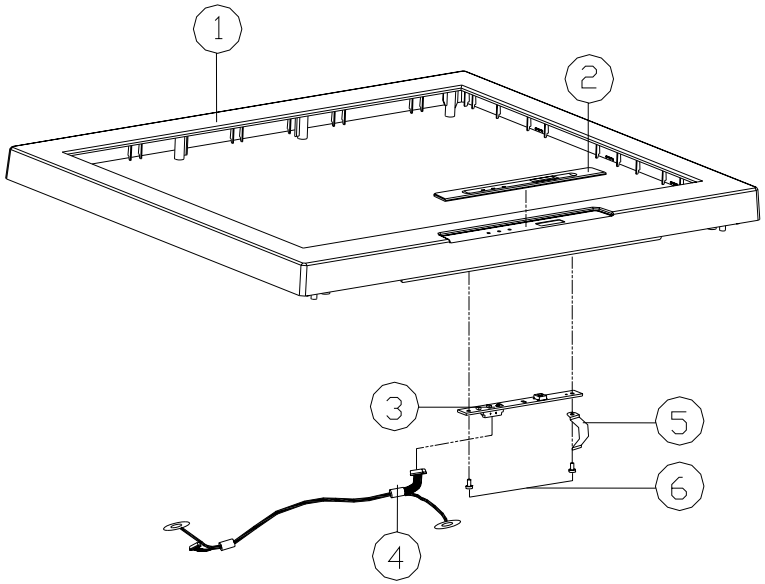
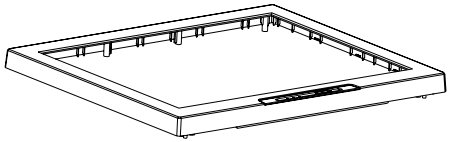


Figure A - 10
L297U - Back

ITEM	PART NAME	PART NO	REMARK
1	M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
2	LCD BACK COVER MODULE L287PB	39-P2971-020	
3	SCREW M2.5*5L B NI ICT	35-41125-5R0	
4	FDD ASS'Y(OPTION) L297PB	79-P297J-010	
4	VIDEO CAPTURE ASS'Y	79-P297V-010	
4	CARD READER ASS'Y L297PB	79-P297E-010	
5	SCREW M2.5*14L K1 NI ICT	35-B1125-14A	
6	HEX STUD SUM22 NI-PL 10mm	34-96002-000	
7	I/O BRACKET+GASKET MODULE,SECC L297UX	33-P27US-100	
8	SCREW M2.5*23L K1 NI ICT	35-B1125-230	
9	MAIN BOARD V3.0 L297P	77-P2970-003	
10	M/B MYLAR L297P	40-P297S-020	
11	GASKET(L9*W5*H4)mm FOR LCD BOARD L287P	47-00190-902	
12	CONVERTER BOARD FOR CHI MEI V3.0 L287P	77-P700V-013	
12	CONVERTER BOARD FOR LG V3.0 L297P	77-P297V-003	
13	SCREW M2*4L F NI ICT	35-21120-4R0	
14	GASKET (L17*W17*H8.5)mm FOR LCD BOARD L287	47-00190-173	
15	LCD TO CONV. WIRE CABLE FOR CHI MEI L297P	43-P2971-070	
15	LCD TO CONV. WIRE CABLE FOR CHI L287P	43-P7001-010	
16	SCREW M3.5*10L F NIH	35-21135-100	CHI MEI/LG
16	SCREW M3.5*8L B NI ICT	35-41135-8R0	CHI
17	WIRE CABLE FOR LED SIGNAL 10P L287P	43-P700F-011	
18	LCD F-CVR ASS'Y L287PB	79-P7201-001	
19	LCD 17" TFT LG LM170E01-A5 SXGA 17nn	50-N32H0-L00	
19	LCD 17" TFT CHI MEI M170E5-L01 SXGA 17nn	50-N32H0-D00	
19	LCD 17" T CHI MEI M170E4-L02 20nn	50-N32K0-D02	
20	SPONGE (L100*W15*H6) FOR PANEL L287P	47-0019A-101	
21	LCD BRACKET 17" SECC L297P	33-P2971-010	
22	VR COVER,PC/ABS L287PB	42-P7271-011	
23	SCREW M2*5L K1 NI ICT	35-B1120-5RA	
24	INVERTER MYLAR PC L297P	40-P297S-010	
25	INVERTER BOARD FOR CHI MEI. 170	77-P700R-011	
26	HEATSINK MODULE W/FAN(70*70*15MM 5700RPM	31-P25UN-100	
27	QDI LCD BRACKET (L)	33-P2971-031	
28	WIRE CABLE FOR MDC MODEM V1.0 L287P	43-P700U-010	
29	SCREW M2*0.4P*3L B NI ICT	35-41120-3R0	
30	MDC MODEM MODULE	76-32200-003	
31	SCREW M3*5MM F NI ICT	35-F1130-5R0	
32	LCD BRACKET(R) FOR CHI MEI L297P	33-P2971-040	
33	LCD TO INVERTER CABLE FOR CHI MEI(70 (L=130m) L297P	43-P2971-060	
33	LCD TO INVERTER WIRE CABLE FOR HYU150 L285P	43-P5001-020	
34	GASKET (L30*W13*H6.5)mm FOR LCD BRACKET L297P	47-00190-30F	
35	ANTENNA PIFA 2.4G 460nm L285P V1.0	23-742R4-A13	

L297U - Front



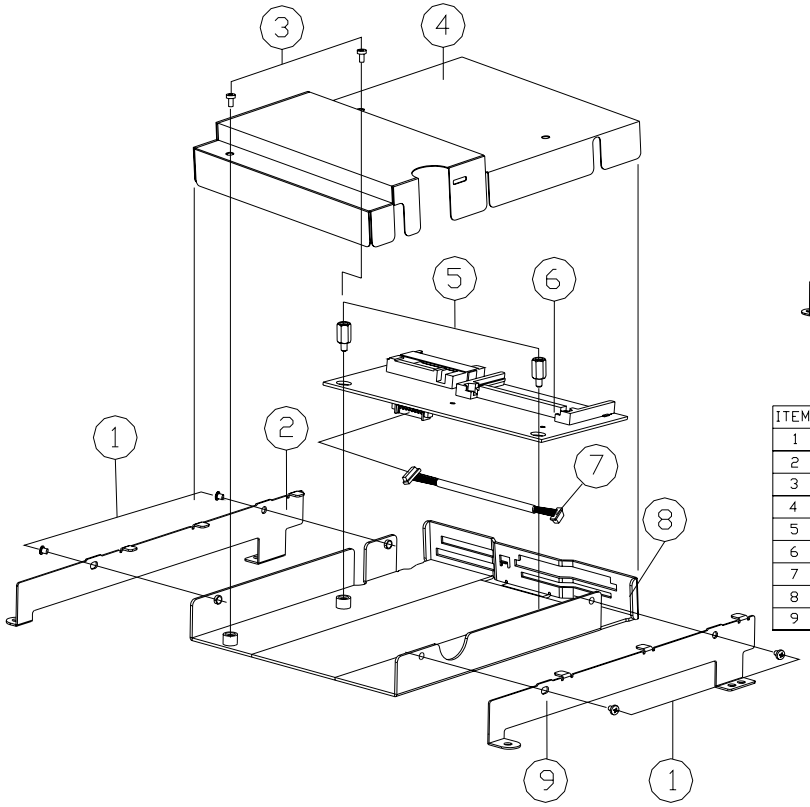


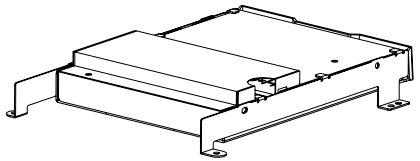
ITEM	PART NAME	PART NO	REMARK
1	LCD F-CVR 17" MODULE L287PB	39-P7201-012	
2	CONTROL PANEL PC L287PB	42-P7291-011	
3	LED BOARD	77-P7004-002	
4	WIRE CABLE FOR LED SIGNAL 10P L287P	43-P700F-011	
5	SPRING PLATE FOR LED BOARD H=2t	38-P500S-010	
6	SCREW M2.5*5L B NI ICT	35-41125-5R0	

Figure A - 11
L297U - Front

L297U - Card Reader Module

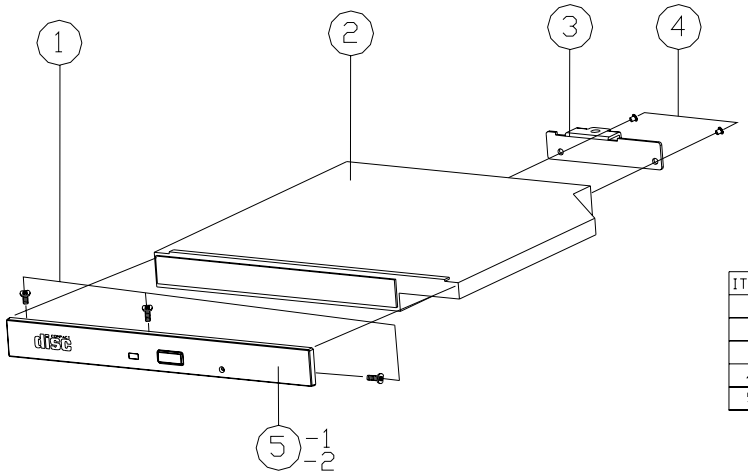
Figure A - 12
L297U - Card Reader Module

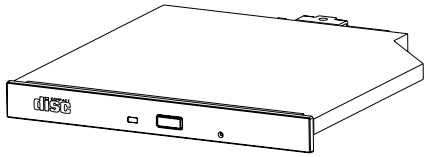




ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*3L P BZ ICT NY	35-06125-3R0	
2	FDD BRACKET (R) SECC L287P	33-P700J-010	
3	SCREW M2.5*5L F MI ICT	35-21125-5RA	
4	VIDEO CAPTURE BRACKET COVER FOR EMI	33-P297V-010	
5	HEX STUD SUM22 NI-PL F=M2.5 11.6M L297P	34-P297E-010	
6	CARD READER MODULE V1.0 FOR D470W	88-D47E0-430	
7	WIRE CABLE FOR CARD READER L297P	43-P297E-010	
8	CARD READER BRACKET SECC L297P	33-P297J-021	
9	FDD BRACKET (L) SECC L285P	33-P700J-020	

L297U - CD-ROM



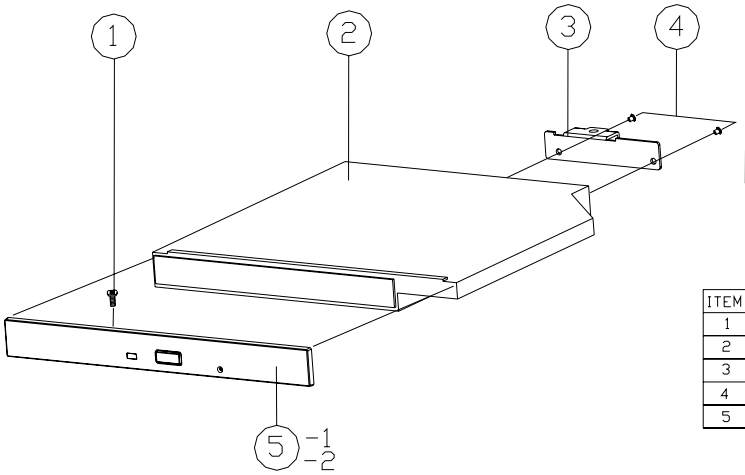


ITEM	PART NAME	PART NO	REMARK
1	SCREW Ø2*5L I BZ TAP	35-26720-5R0-1	
2	CD-ROM 5 1/4" 24X 12.7MM TEAC	85-607□X-70A	CD-224E-C20
3	CD-ROM REAR BRACKET SECC L287P	33-P700Z-021	
4	SCREW M2*3.5L F BNI ICT NY	35-21120-35B	
5	TEAC CD-ROM BEZEL MODULE	39-P227Z-011	L287PB

Figure A - 13
L297U - CD-ROM

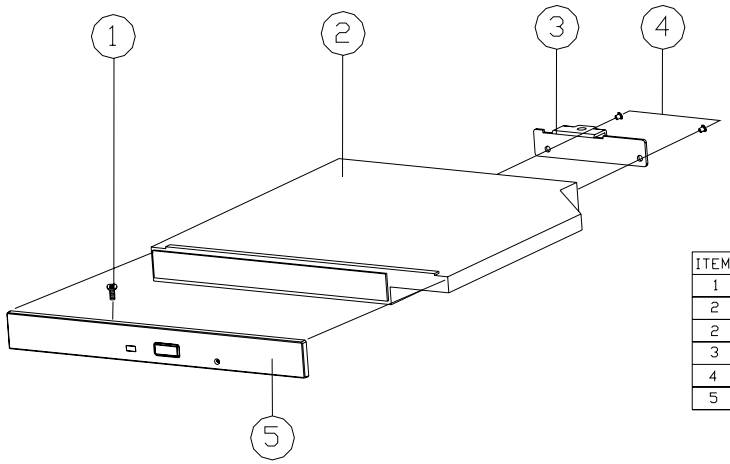
L297U - Combo

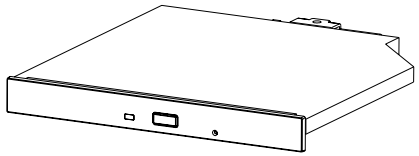
Figure A - 14
L297U - Combo



ITEM	PART NAME	PART NO	REMARK
1	SCREW M1.7*0.64*3.8L B BZ ICT	35-46117-3R8	
2	CD-RW/DVD 5 1/4" 24X 12.7mm QSI	85-907□X-C02	SBW-242B
3	CD-ROM REAR BRACKET SECC L287P	33-P700Z-021	
4	SCREW M2*3.5L F BNI ICT NY	35-21120-35B	
5	QSI COMBO BEZEL MODULE L287PA/B	42-P517X-300	

L297U - Toshiba DVD-RW



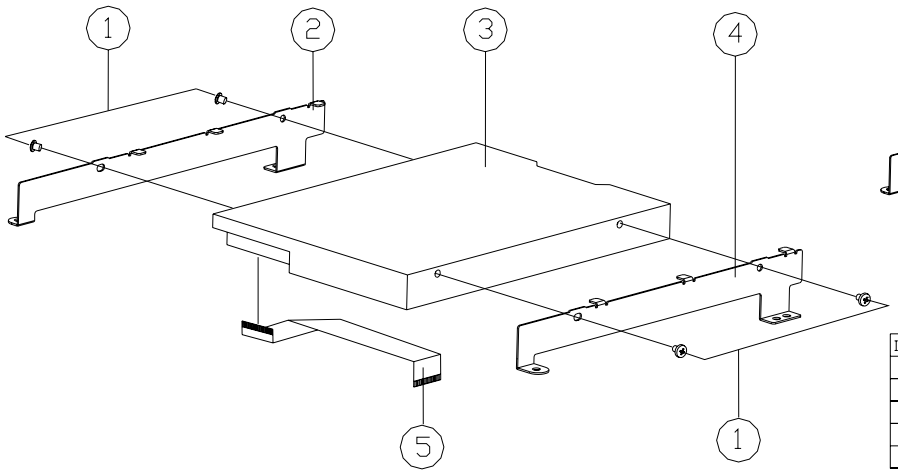


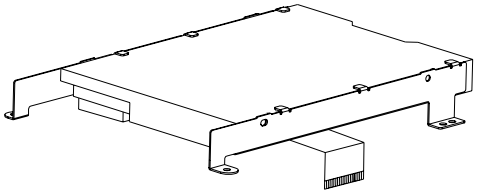
ITEM	PART NAME	PART NO	REMARK
1	SCREW M1.7*0.64*3.8L B BZ ICT	35-46117-3R8	
2	DVD-RW 5 1/4" 1X 12.7mm TOSHIBA F/W=1033	85-A071X-T01	SD-R6012
2	DVD-RW 5 1/4" 2X 12.7mm SD-R6112 TOSHIBA	85-A072X-T00	SD-R6112
3	CD-ROM REAR BRACKET SECC L287P	33-P700Z-020	
4	SCREW M2*3.5L F BNI ICT NY	35-21120-35B	
5	TOSHIBA DVD-RW BEZEL MODULE L297PB	42-P297Q-100	

Figure A - 15
L297U - Toshiba DVD-RW

L297U - FDD

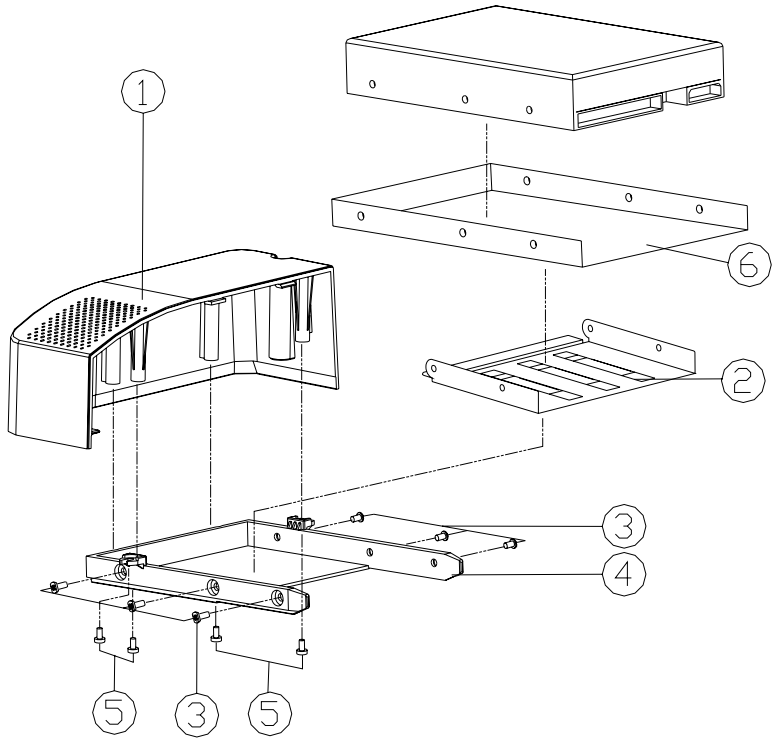
Figure A - 16
L297U - FDD





ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*3L P BZ ICT NY	35-06125-3R0	
2	FDD BRACKET (R) SECC L287P	33-P700J-010	
3	FDD 3.5" 1.44MB 12.7mm YD-702J-6637J-64476	85-11700-Y06-2	FOR L297PB
4	FDD BRACKET (L) SECC L285P	33-P700J-020	
5	FFC CABLE FOR FDD L287P	43-P700J-010	

L297U - HDD

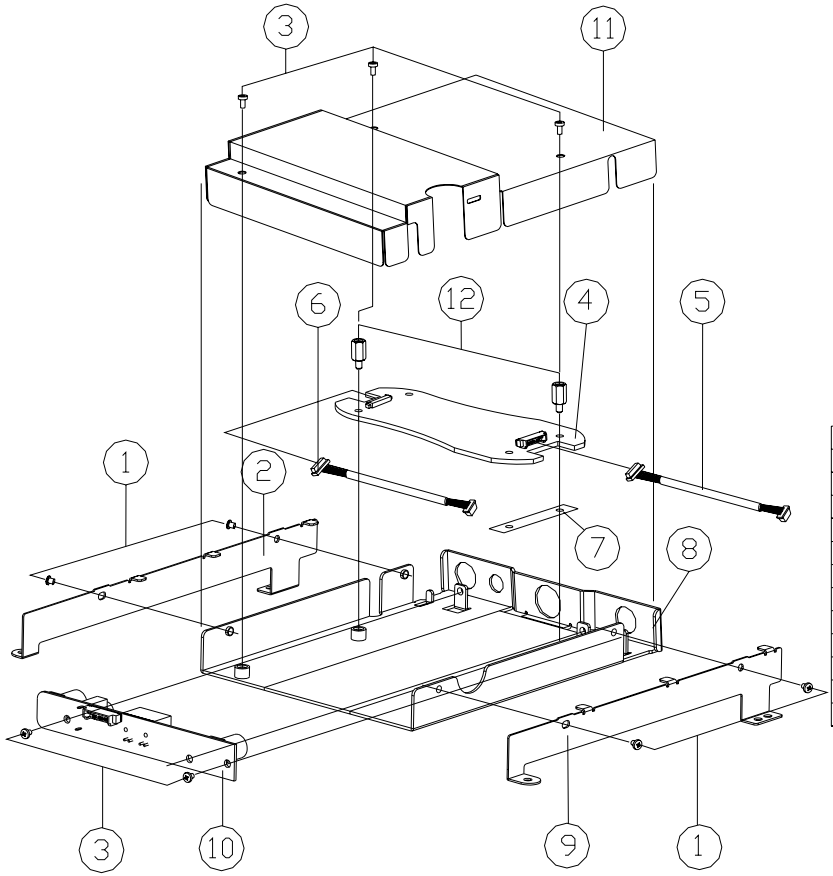


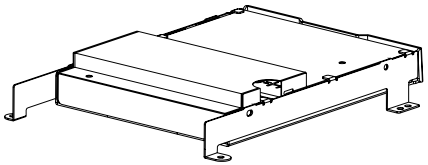
ITEM	PART NAME	PART NO	REMARK
1	HDD COVER ABS/PC L287PB	42-P727I-021	
2	HDD SHIELDING PLATE FOR SAMSUNG SUS LP200S	33-P2C0I-010	
3	SCREW #6-32*5L B NI ACT	35-41306-5R0	
4	HDD HOLDER PC/ABS LP200	39-P2211-001	
5	M3*6L*0.5P BIND HEAD NI-PL	35-41130-6R0	
6	HDD SHIELDING AL FOIL L285P	47-P507I-011	

Figure A - 17
L297U - HDD

L297U - Video Capture Card Module

Figure A - 18
L297U - Video Capture Card Module





ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*3L P BZ ICT NY	35-06125-3R0	
2	FDD BRACKET (R) SECC L287P	33-P700J-010	
3	SCREW M2.5*5L F MI ICT	35-21125-5RA	
4	AVerDVD EZMaker USB2.0 BOARD L297P	76-P2970-001	
5	WIRE CABLE FOR CAPTURE BOARD USB L297P	43-P297V-020	
6	WIRE CABLE FOR CAPTURE BOARD VIDEO L297P	43-P297V-010	
7	MYLAR FOR AVer DVD EZMAKER USB2.0 BOARD L297P	40-P297S-030	
8	VIDEO CAPTURE BRACKET SECC T=1 L297P	33-P297J-011	
9	FDD BRACKET (L) SECC L285P	33-P700J-020	
10	VIDEO CAPTURE BOARD L297P	77-P297H-003	
11	VIDEO CAPTURE BRACKET COVER FOR EMI	33-P297V-010	
12	HEX STUD 2.5 *5M-NI(3MM) FOR VIDEO CAPTURE L297P	34-P297V-010	

Appendix B: Schematic Diagrams

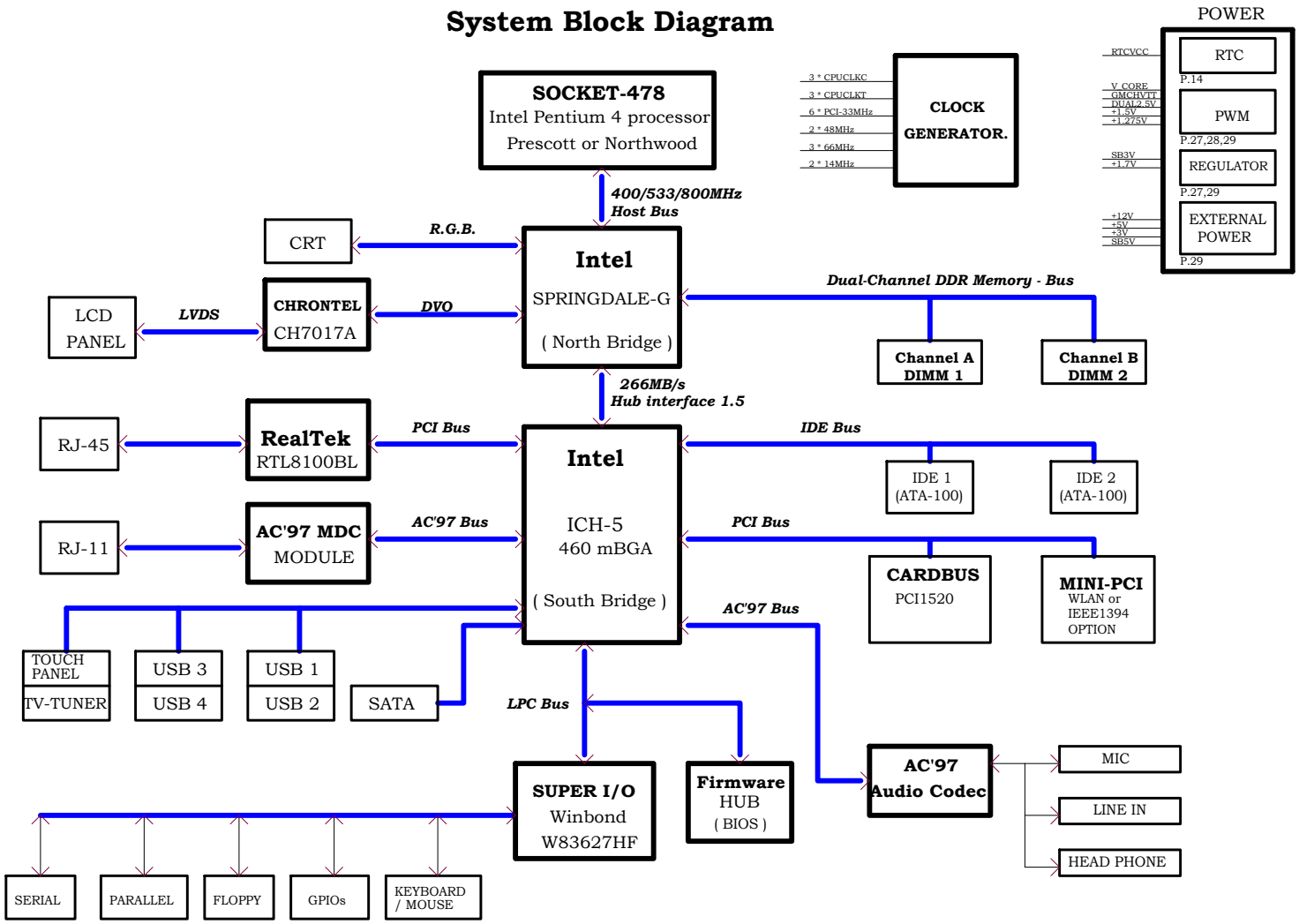
This appendix has circuit diagrams of the systems PCB's:

Table B - 1
Schematic Diagram

Diagram - Page	Diagram - Page
System Block Diagram - Page B - 2	*ICH5 (PCI, IDE, UHB, USB, LAN) - Page B - 16*
Northwood - 1 of 2 - Page B - 3	*Thermal & Fan Controller - Page B - 17*
Northwood - 2 of 2 - Page B - 4	*Cardbus PCI1520 - Page B - 18*
Clock Generator - Page B - 5	*IEEE 1394 - Page B - 19*
MCH Power - Page B - 6	*Cardbus Slot & Mini PCI - Page B - 20*
MCH Host - Page B - 7	*LAN RTL8100BL - Page B - 21*
MCH AGP - Page B - 8	*IDE Connector & Firmware Hub - Page B - 22*
MCH Memory - Page B - 9	*SIO W83627HF - Page B - 23*
MCH Memory Termination - Page B - 10	*Serial & Parallel Port - Page B - 24*
DDR RIMM - Page B - 11	*CODEC - Page B - 25*
DVO Chrontel CH7107A - Page B - 12	*Amplifiers & Inverter Connector - Page B - 26*
LCD Connector - Page B - 13	*Power 1 - Page B - 27*
CRT & USB - Page B - 14	*Power 2 - Page B - 28*
ICH5 (Power, LPC, Clock, SMbus) - Page B - 15	*Power 3 - Page B - 29*

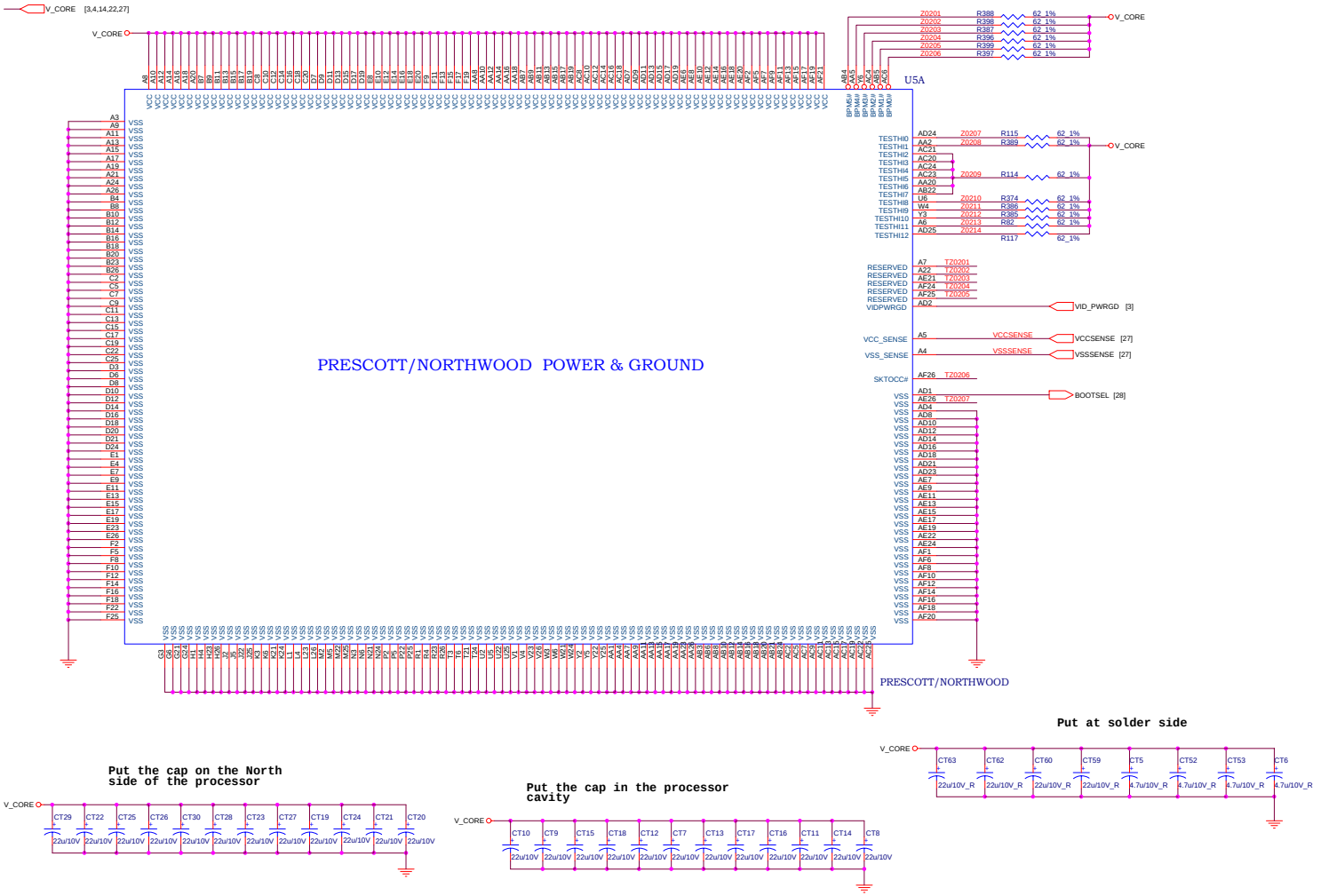
System Block Diagram

Sheet 1 of 28
Schematic Diagram



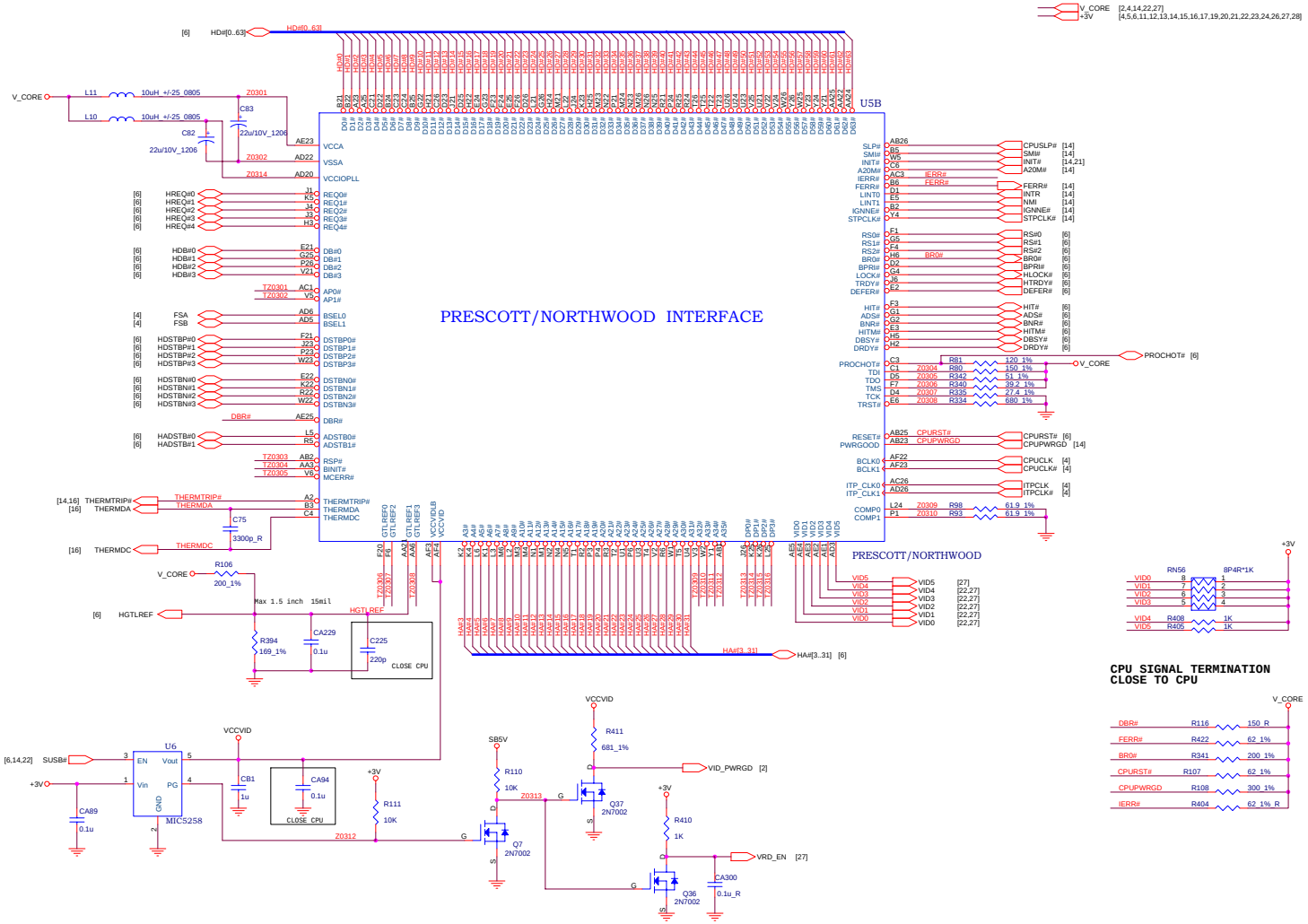
Northwood - 1 of 2

Sheet 2 of 28
Northwood 1 of 2



Northwood - 2 of 2

Sheet 3 of 28
Northwood 2 of 2



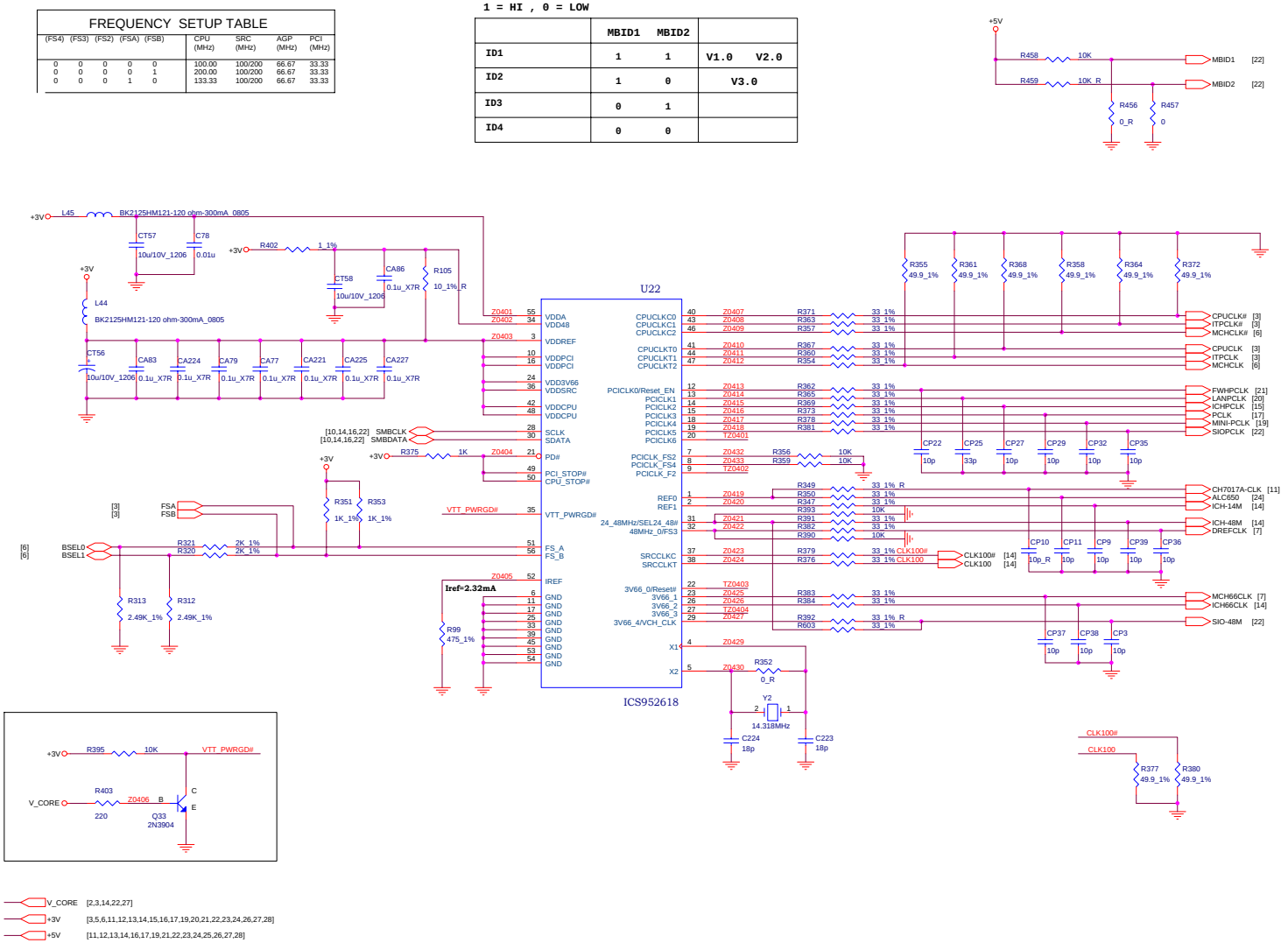
Clock Generator

Sheet 4 of 28
Clock Generator

FREQUENCY SETUP TABLE								
(FS4)	(FS3)	(FS2)	(FSA)	(FSB)	CPU (MHz)	SRC (MHz)	AGP (MHz)	PCI (MHz)
0	0	0	0	0	100.00	100/200	66.67	33.33
0	0	0	0	1	200.00	100/200	66.67	33.33
0	0	0	1	0	133.33	100/200	66.67	33.33

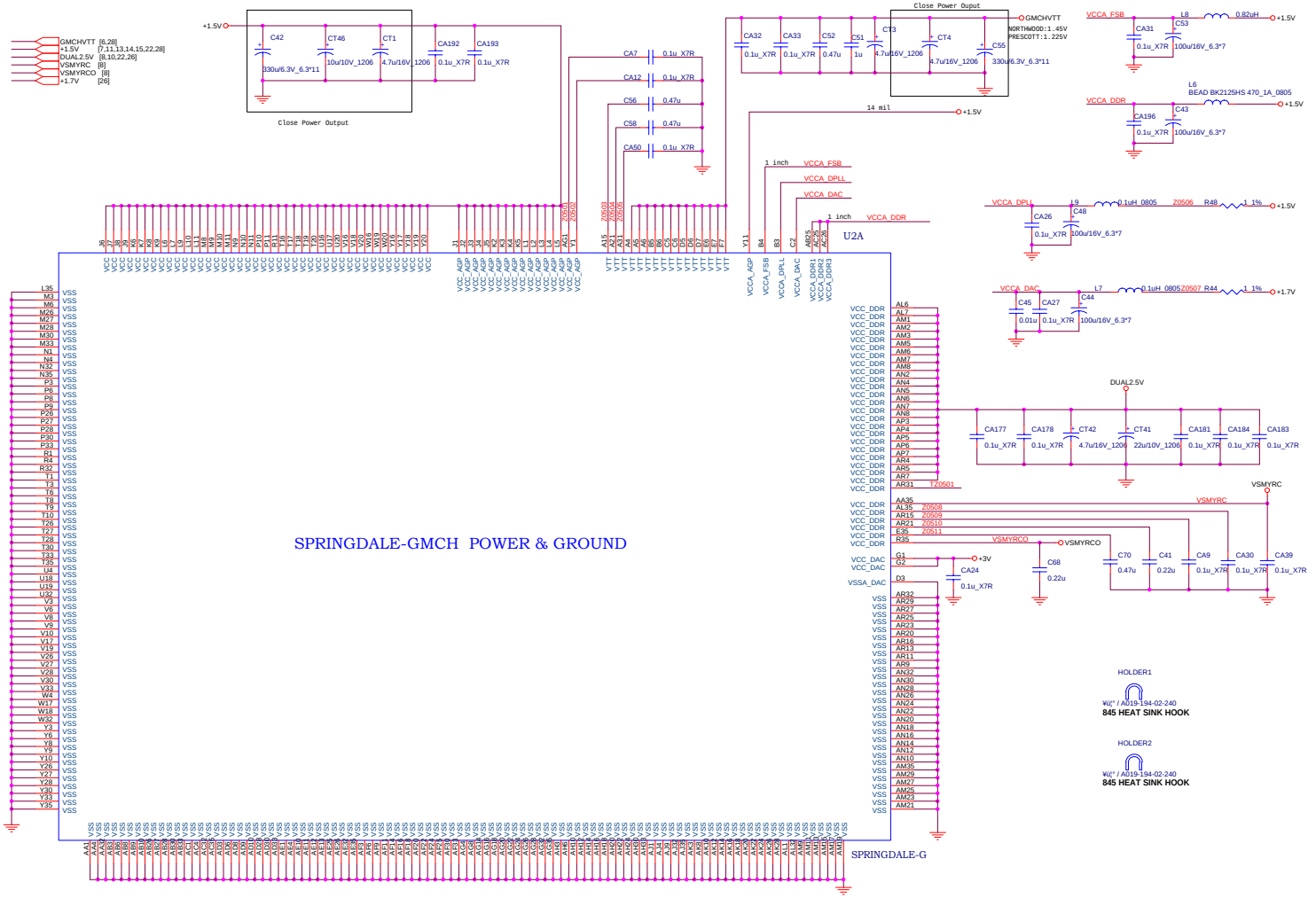
1 = HI , 0 = LOW

	MBID1	MBID2	
ID1	1	1	V1.0 V2.0
ID2	1	0	V3.0
ID3	0	1	
ID4	0	0	

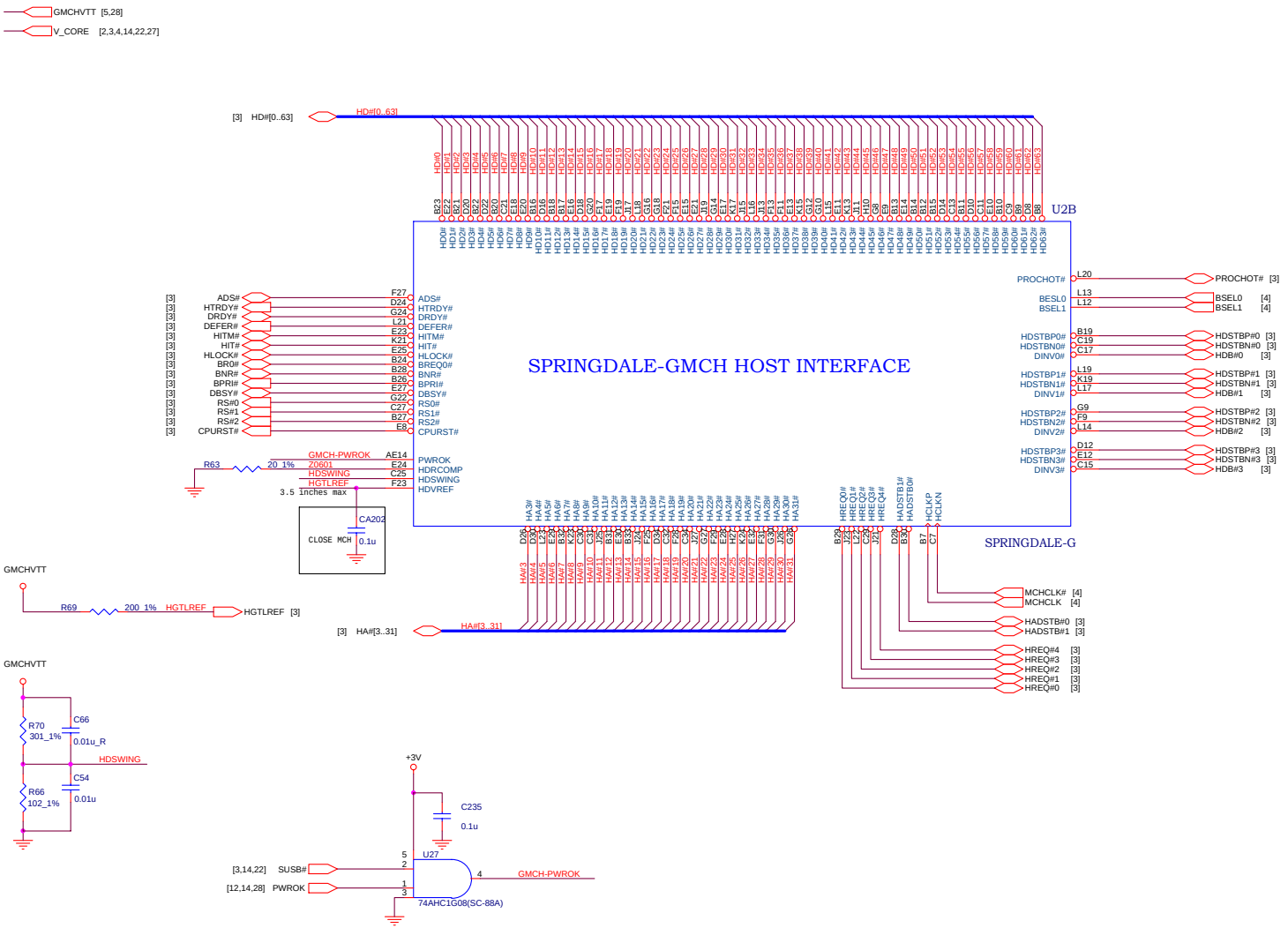


MCH Power

Sheet 5 of 28
MCH Power

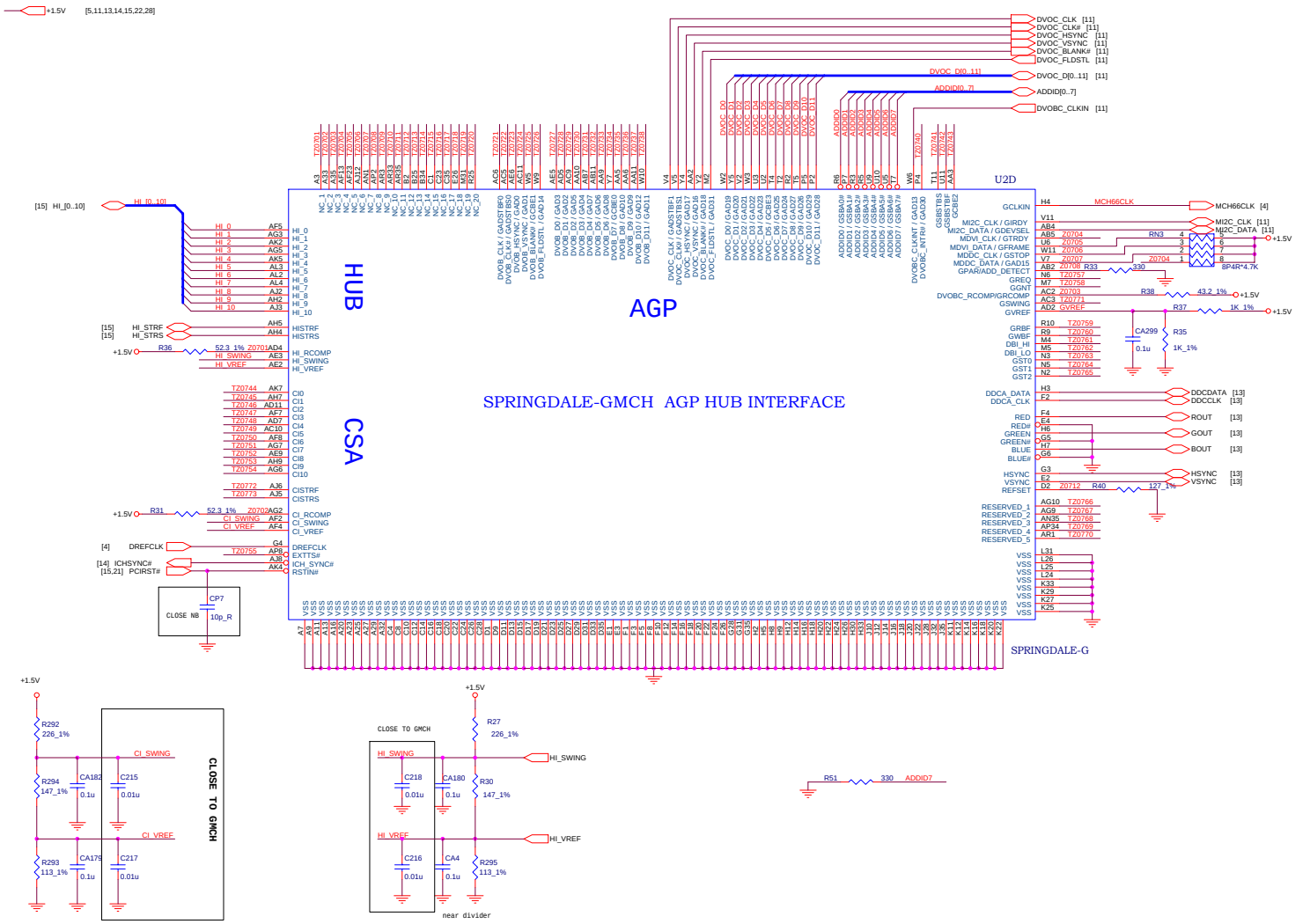


MCH Host


GMCHVTT [5,28]
V_CORE [2,3,4,14,22,27]
[3] HD#[0..63]
HD#[0..63]
U2B
SPRINGDALE-GMCH HOST INTERFACE
SPRINGDALE-G
ADS#
HTRDY#
DRDY#
DEFER#
HITM#
HIT#
HLOCK#
BREQ0#
BNR#
BPRI#
DBSY#
RS#0
RS#1
RS#2
CPURST#
PWROK
HDRCOMP
HDSWING
HDVREF
GMCH-PWROK
Z0601
HGTLREF
R63
20 1%
3.5 inches max
CA202
CLOSE MCH
0.1u
GMCHVTT
R69
200 1%
HGTLREF [3]
[3] HA#[3..31]
HA#[3..31]
PROCHOT#
BSEL0
BSEL1
HDSTBP0#
HDSTBN0#
DINV0#
HDSTBP1#
HDSTBN1#
DINV1#
HDSTBP2#
HDSTBN2#
DINV2#
HDSTBP3#
HDSTBN3#
DINV3#
HADSTB1#
HADSTB0#
HCLKP
HCLKN
MCHCLK# [4]
MCHCLK [4]
HADSTB#0 [3]
HADSTB#1 [3]
HREQ#4 [3]
HREQ#3 [3]
HREQ#2 [3]
HREQ#1 [3]
HREQ#0 [3]
GMCHVTT
R70
301_1%
C66
0.01u_R
HDSWING
C54
0.01u
R66
102_1%
+3V
C235
0.1u
U27
[3,14,22] SUSB#
[12,14,28] PWROK
GMCH-PWROK
74AHC1G08(SC-88A)

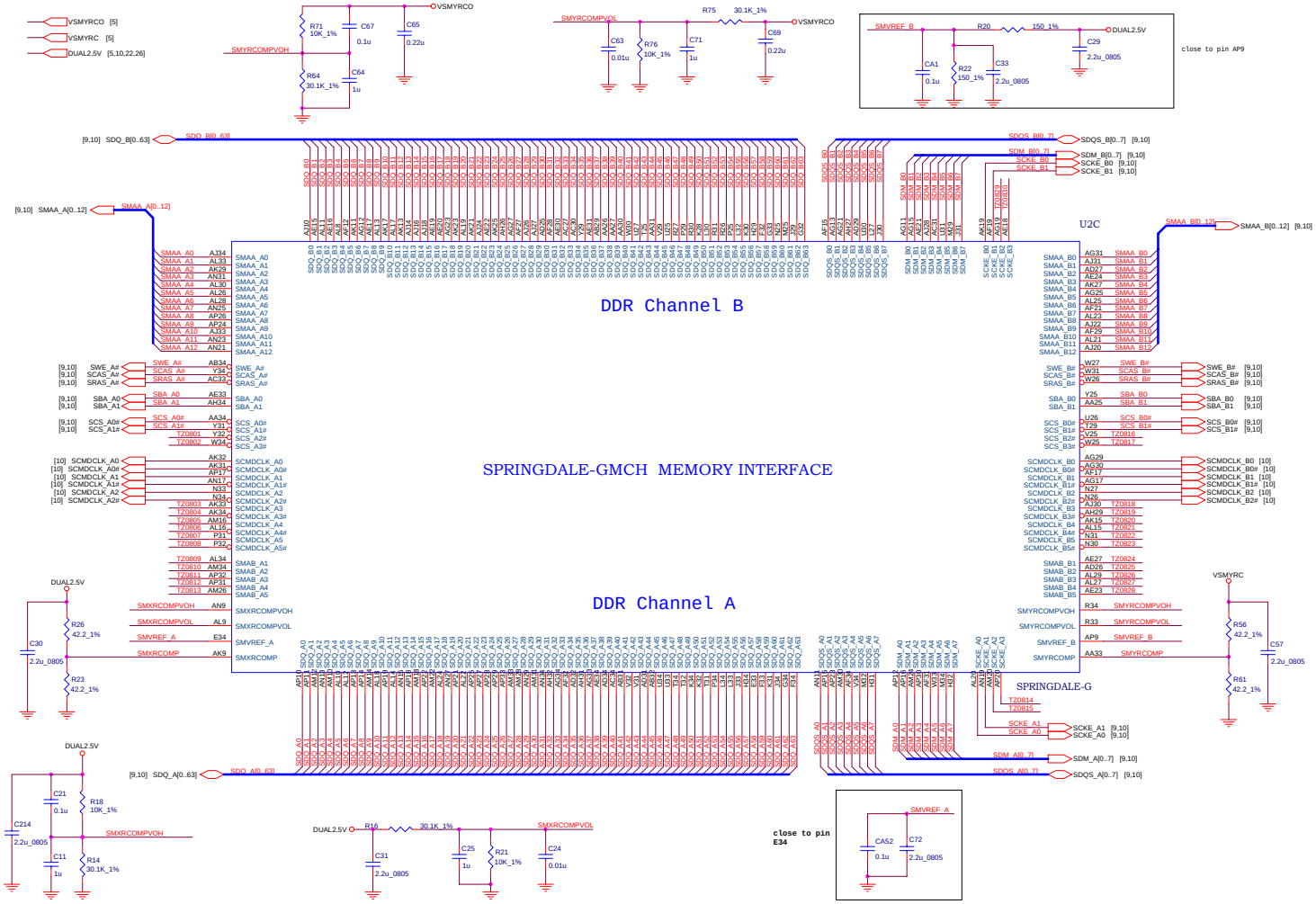
MCH AGP

Sheet 7 of 28
MCH AGP



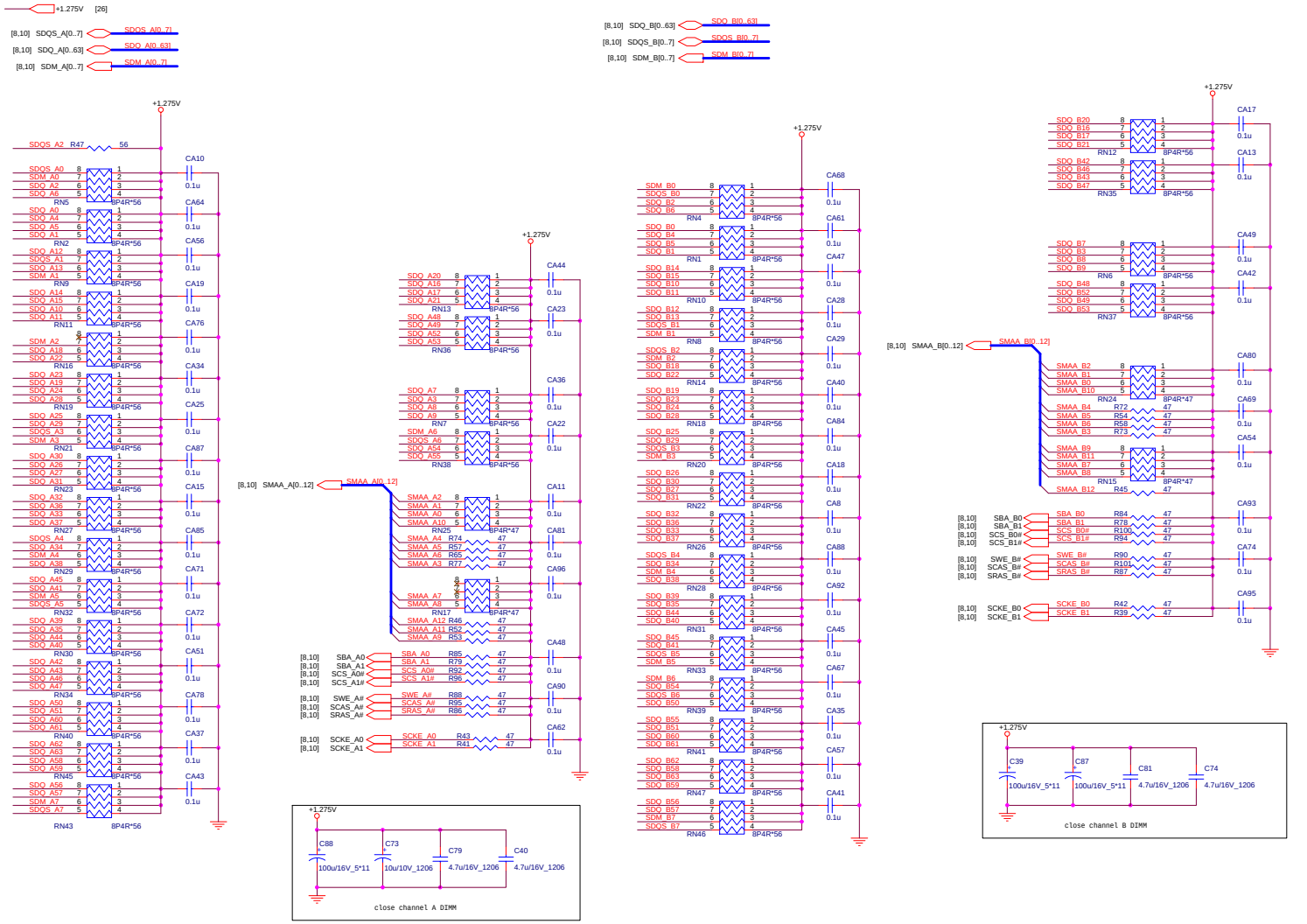
MCH Memory

Sheet 8 of 28
MCH Memory

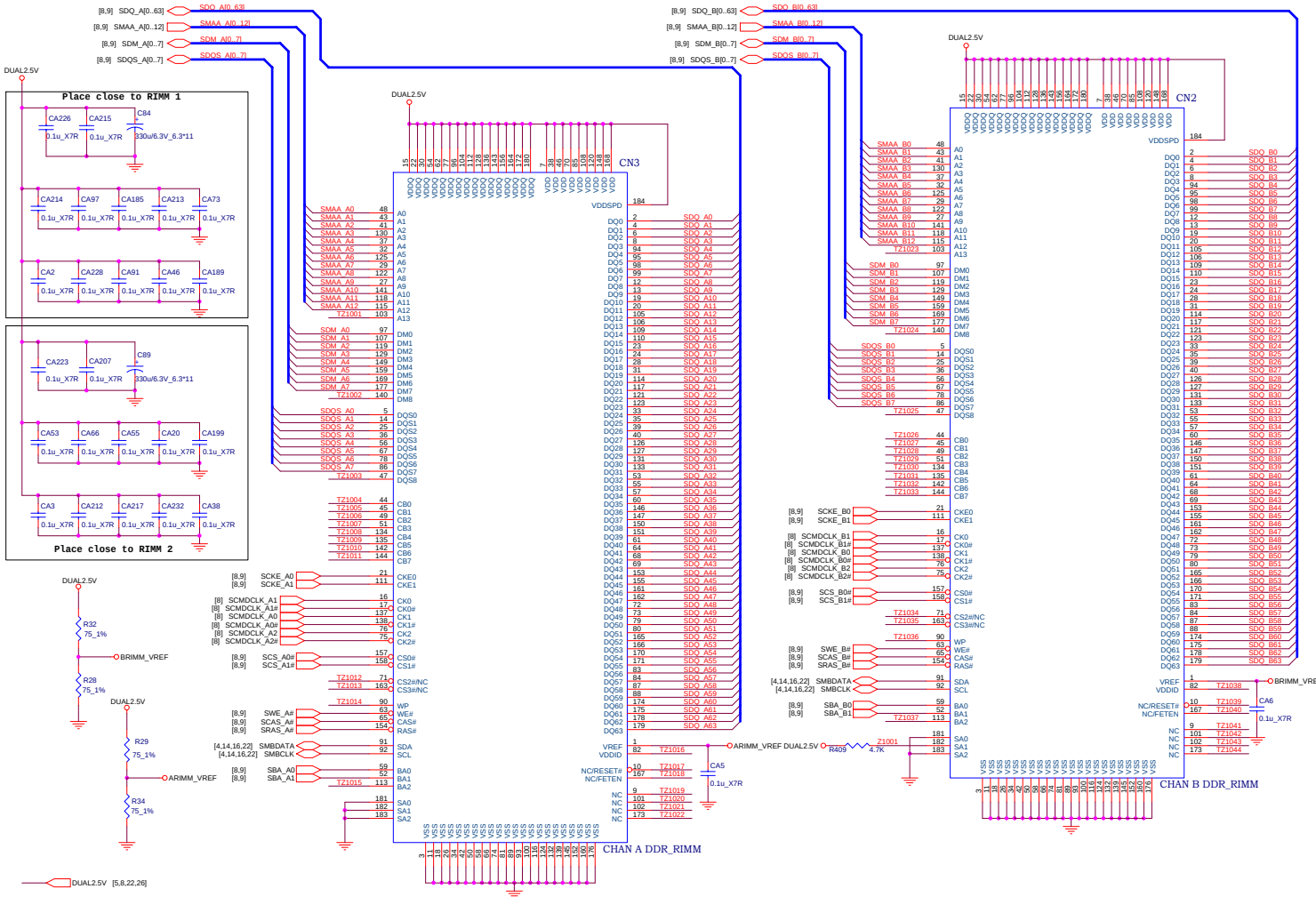


MCH Memory Termination

Sheet 9 of 28
MCH Memory Termination

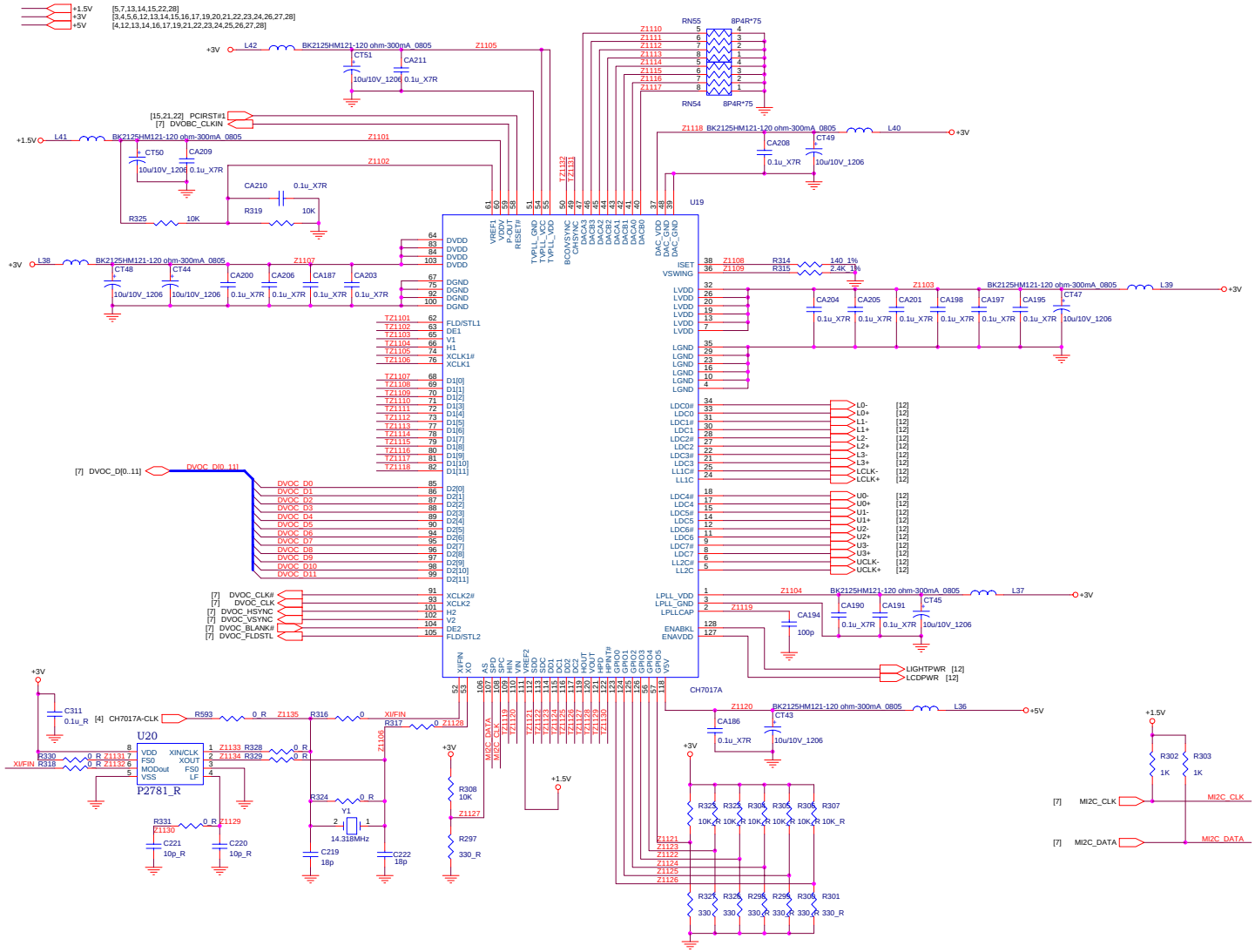


DDR RIMM


Place close to RIMM 1
Place close to RIMM 2
CHAN A DDR_RIMM
CHAN B DDR_RIMM
CN3
CN2
DUAL2.5V
BRIMM_VREF
ARIMM_VREF

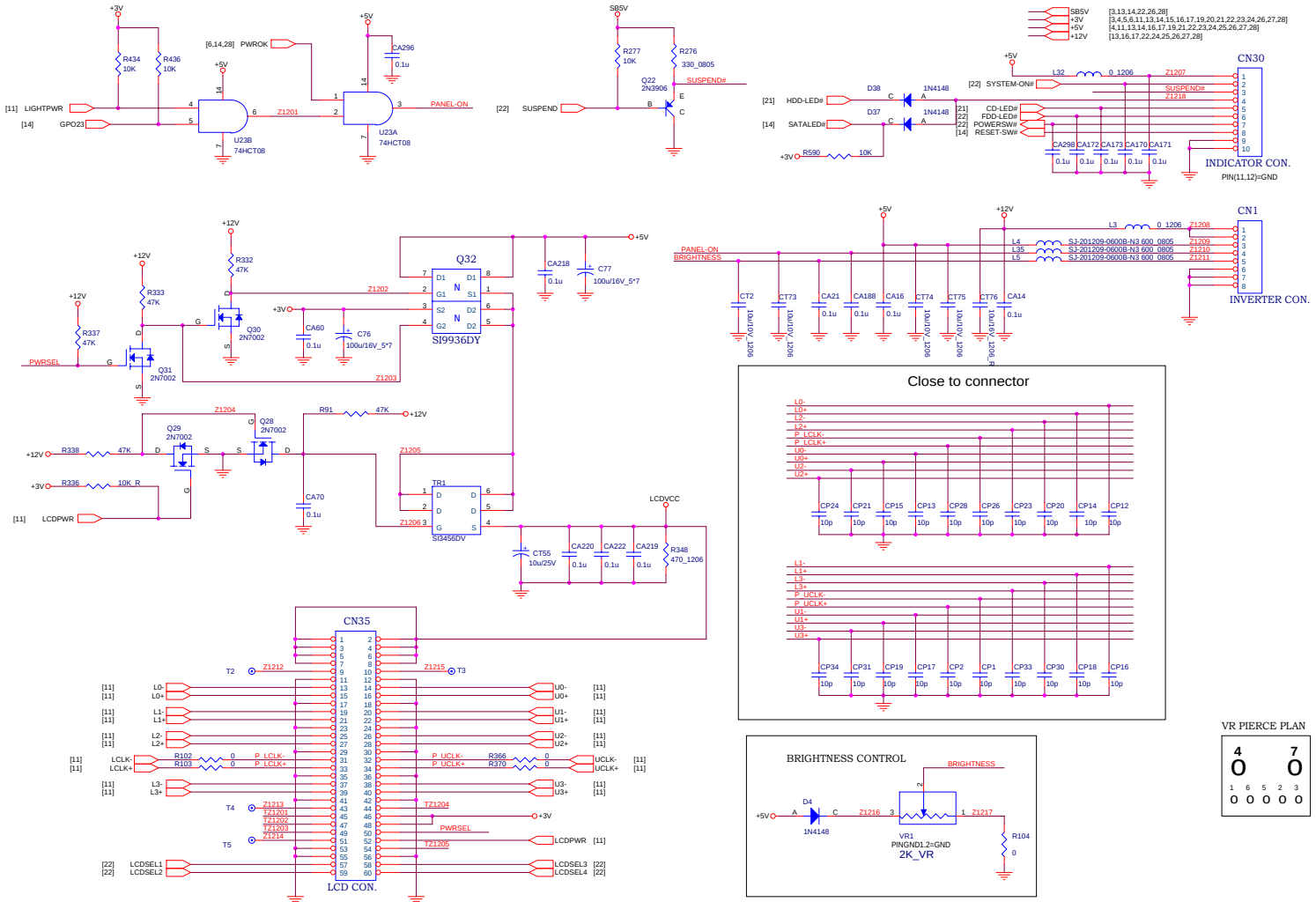
DVO Chrontel CH7107A

Sheet 11 of 28
DVO Chrontel
CH7107A



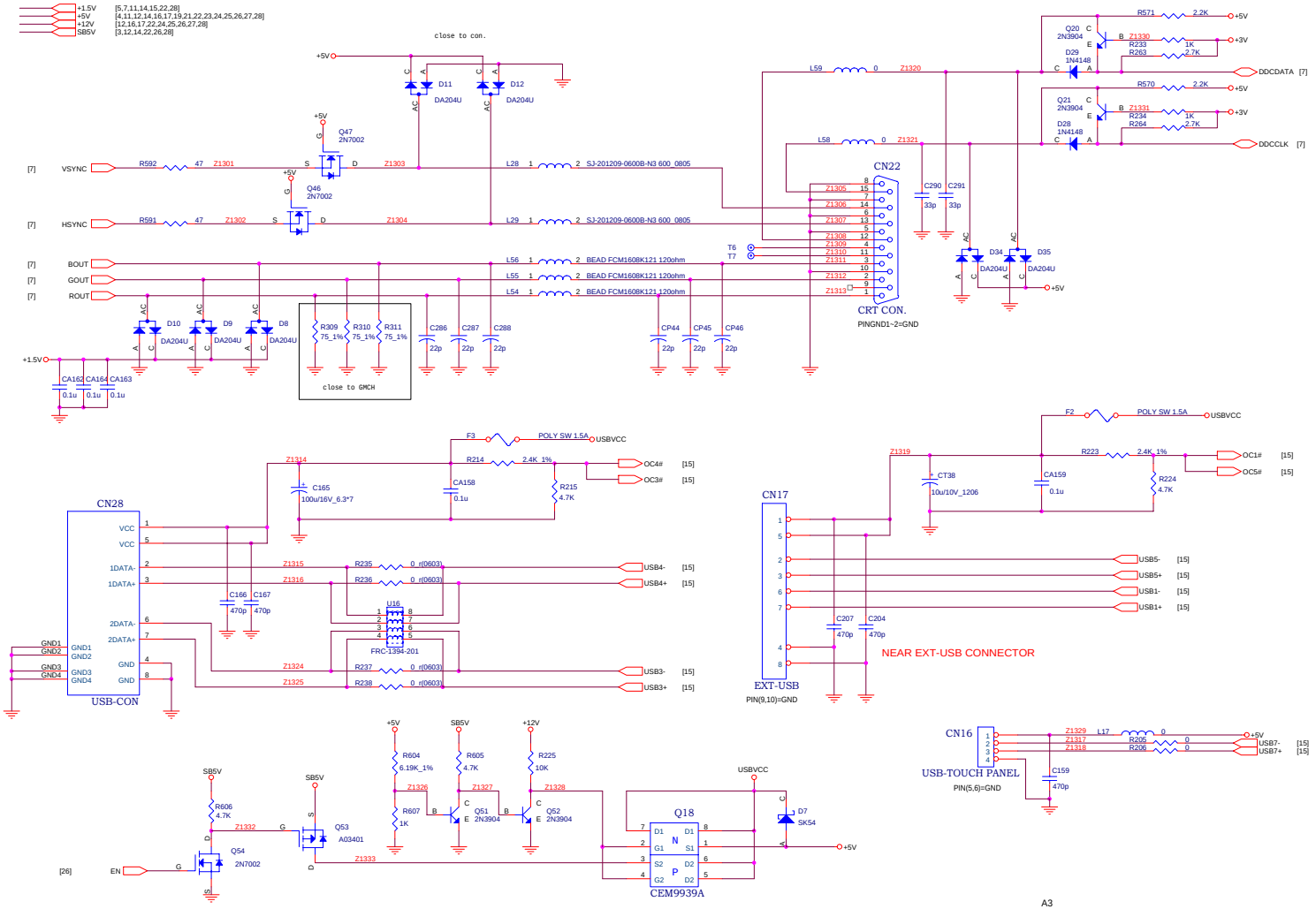
LCD Connector

Sheet 12 of 28
LCD Connector



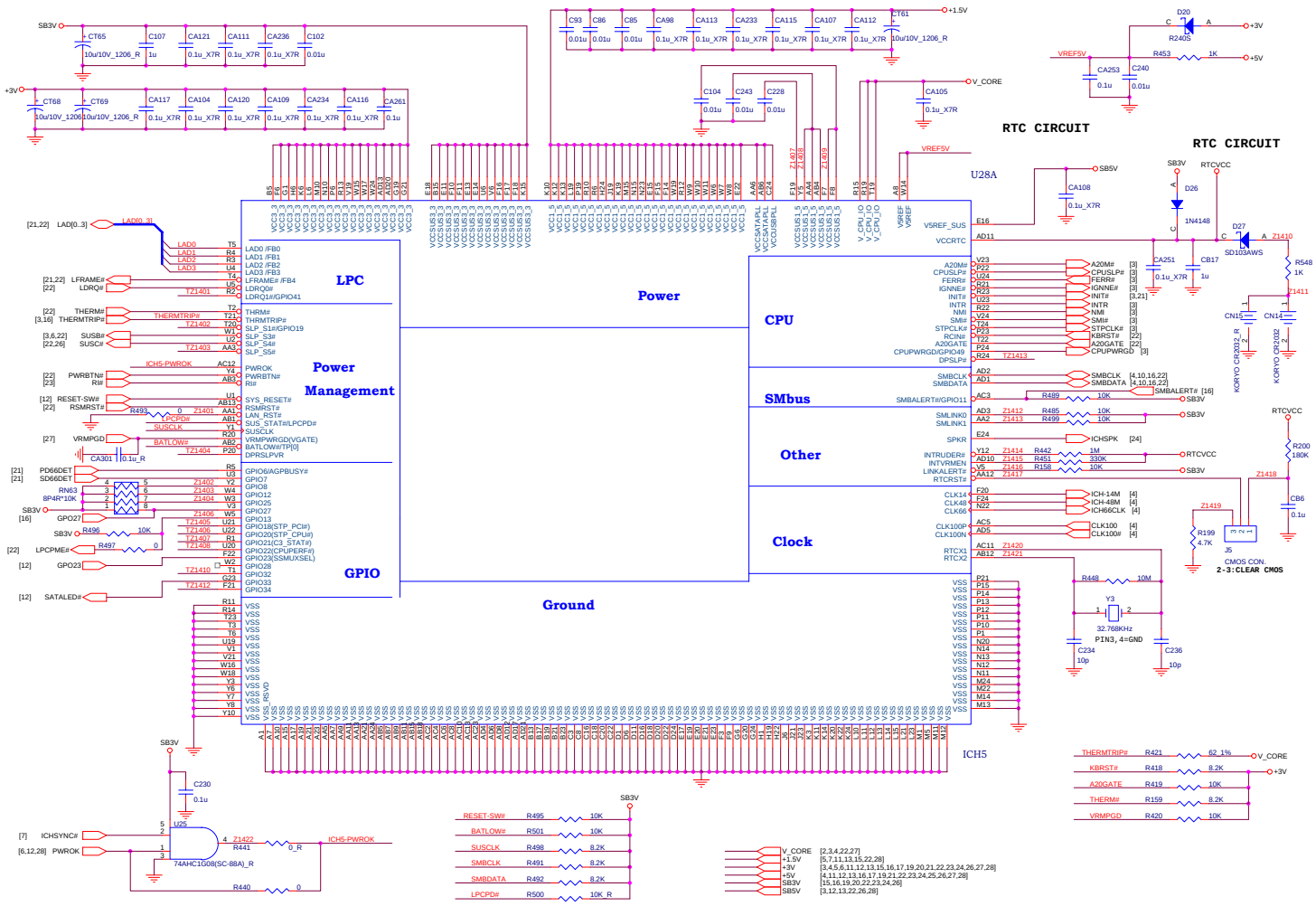
CRT & USB

Sheet 13 of 28
CRT & USB



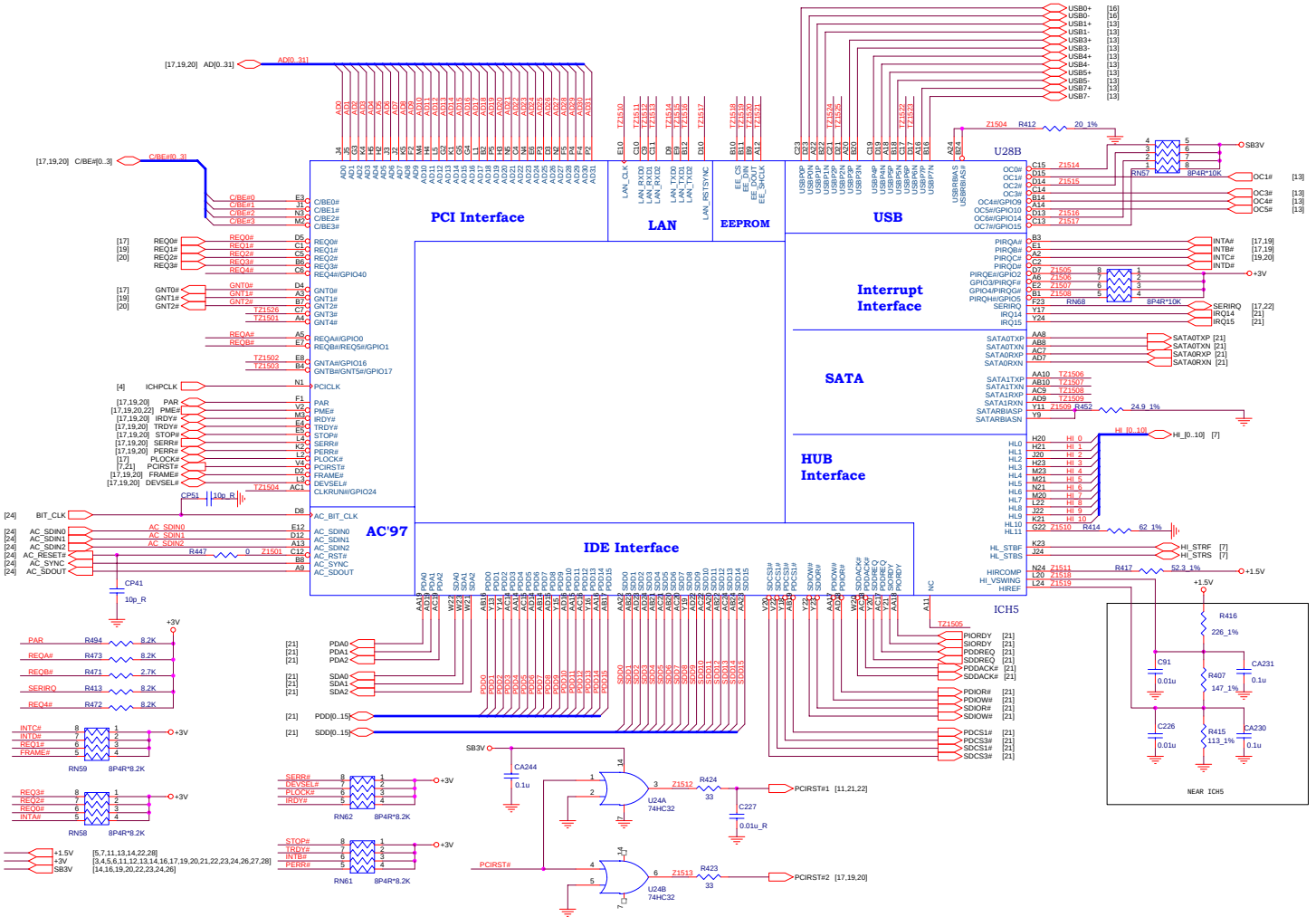
ICH5 (Power, LPC, Clock, SMbus)

Sheet 14 of 28
ICH5 (Power, LPC, Clock, SMbus)

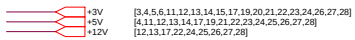


ICH5 (PCI, IDE, UHB, USB, LAN)

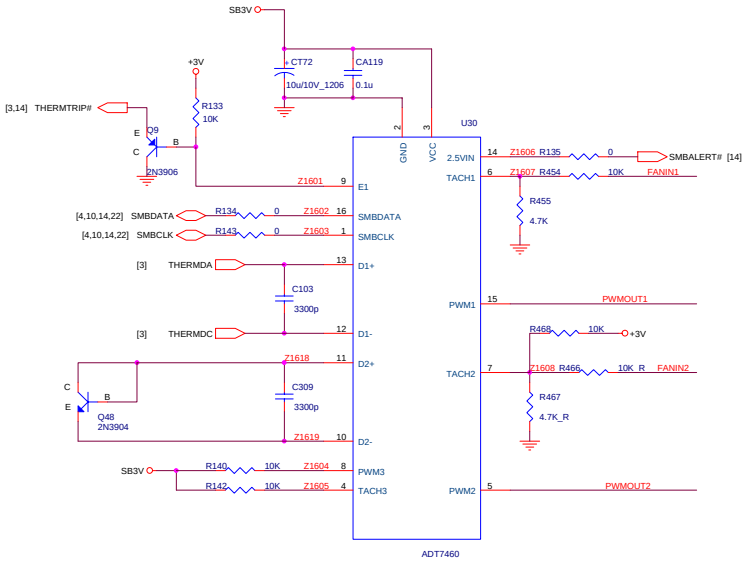
Sheet 15 of 28
ICH5 (PCI, IDE, UHB, USB, LAN)

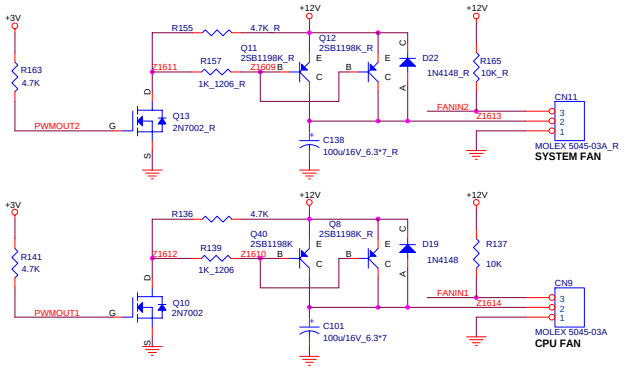


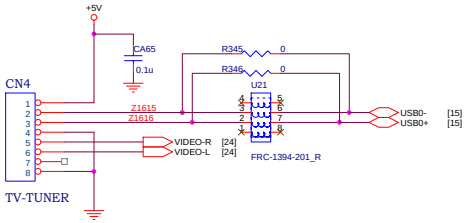
Thermal & Fan Controller

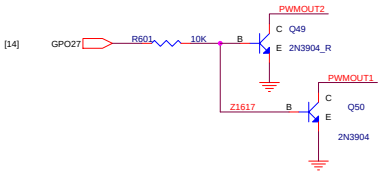


Sheet 16 of 28
Thermal & Fan Controller



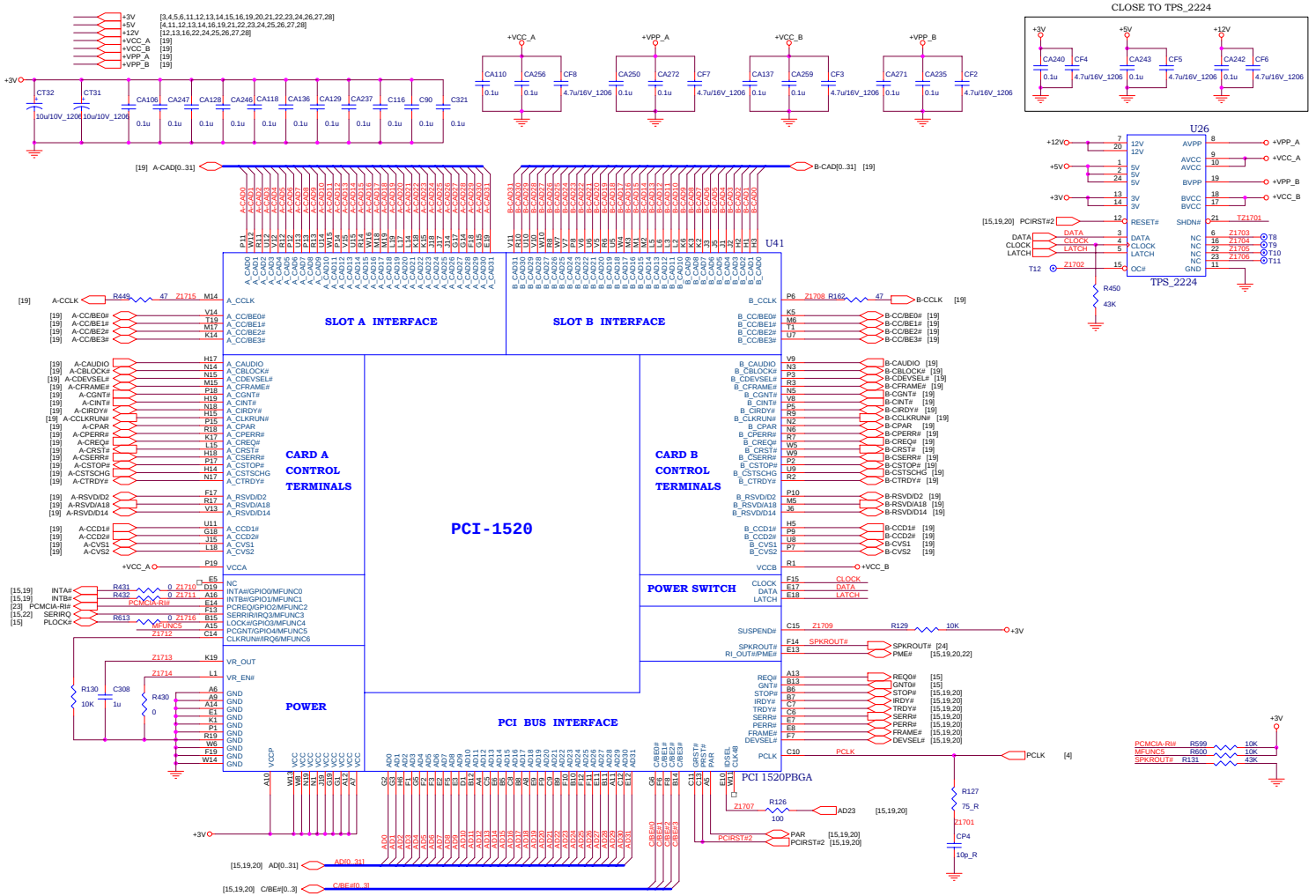




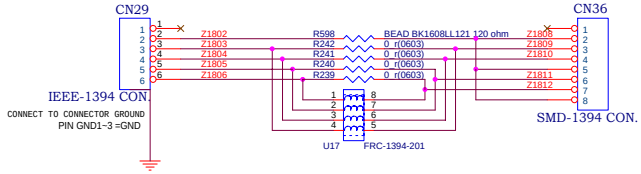


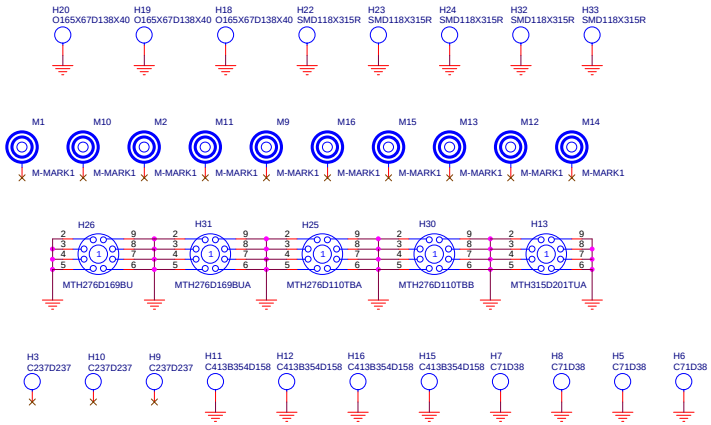
Cardbus PCI1520

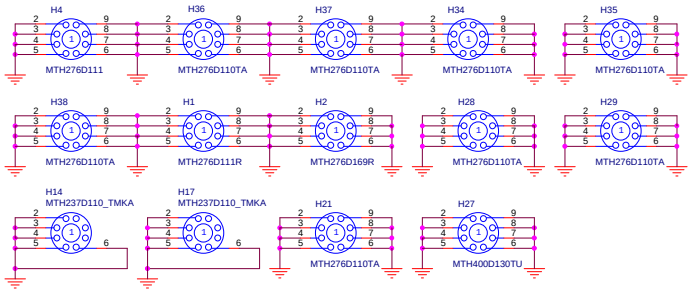
Sheet 17 of 28
Cardbus PCI1520



IEEE 1394

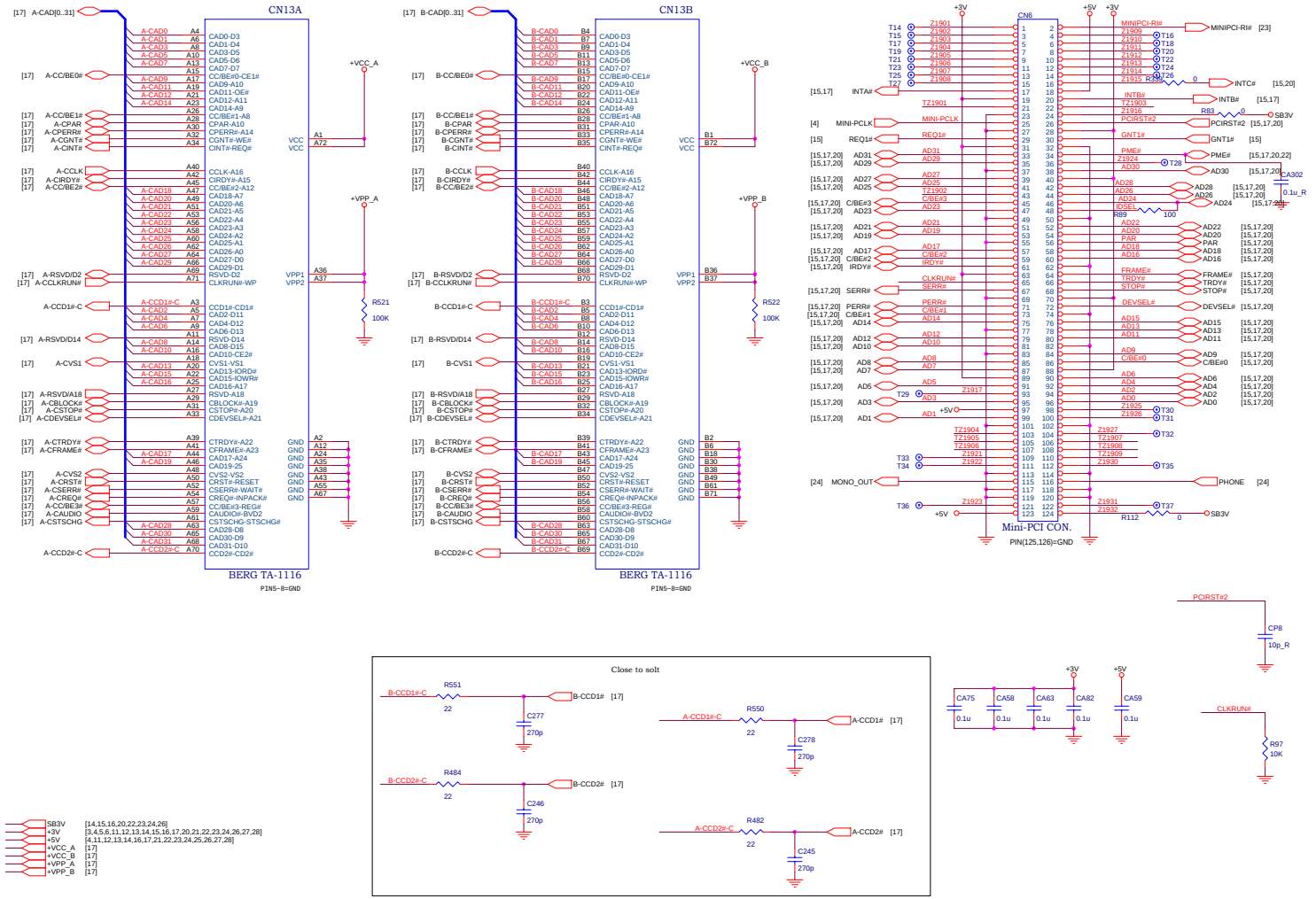

CN29
IEEE-1394 CON.
CONNECT TO CONNECTOR GROUND
PIN GND1~3 =GND
Z1802
Z1803
Z1804
Z1805
Z1806
R598
R242
R241
R240
R239
BEAD BK1608LL121 120 ohm
0 r(0603)
0 r(0603)
0 r(0603)
0 r(0603)
U17
FRC-1394-201
Z1808
Z1809
Z1810
Z1811
Z1812
CN36
SMD-1394 CON.


H20 O165X67D138X40
H19 O165X67D138X40
H18 O165X67D138X40
H22 SMD118X315R
H23 SMD118X315R
H24 SMD118X315R
H32 SMD118X315R
H33 SMD118X315R
M1 M10 M2 M11 M9 M16 M15 M13 M12 M14
M-MARK1
H26 MTH276D169BU
H31 MTH276D169BUA
H25 MTH276D110TBA
H30 MTH276D110TBB
H13 MTH315D201TUA
H3 C237D237
H10 C237D237
H9 C237D237
H11 C413B354D158
H12 C413B354D158
H16 C413B354D158
H15 C413B354D158
H7 C71D38
H8 C71D38
H5 C71D38
H6 C71D38

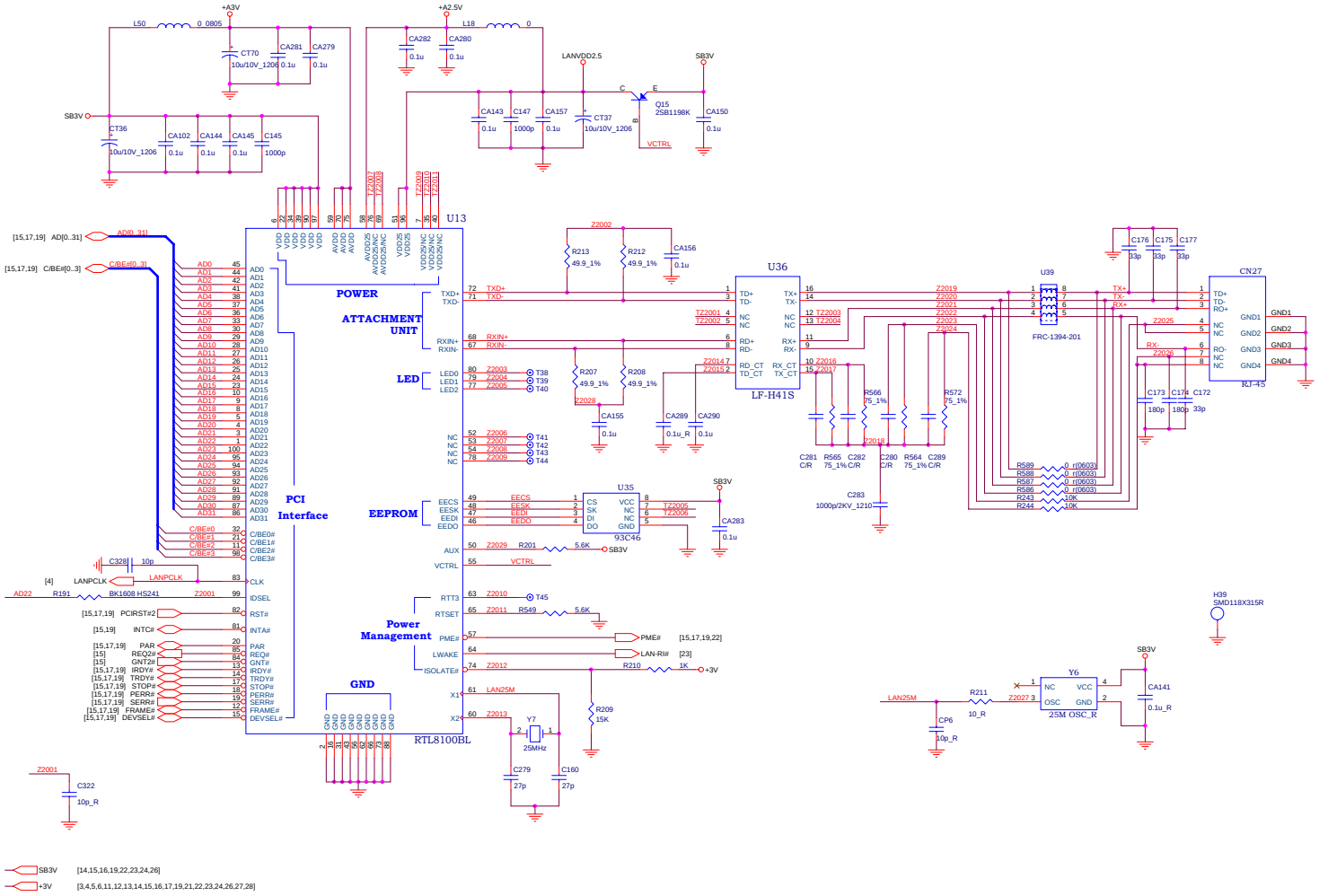

H4 MTH276D111
H36 MTH276D110TA
H37 MTH276D110TA
H34 MTH276D110TA
H35 MTH276D110TA
H38 MTH276D110TA
H1 MTH276D111R
H2 MTH276D169R
H28 MTH276D110TA
H29 MTH276D110TA
H14 MTH237D110_TMKA
H17 MTH237D110_TMKA
H21 MTH276D110TA
H27 MTH400D130TU

Cardbus Slot & Mini PCI

Sheet 19 of 28
Cardbus Slot & Mini PCI



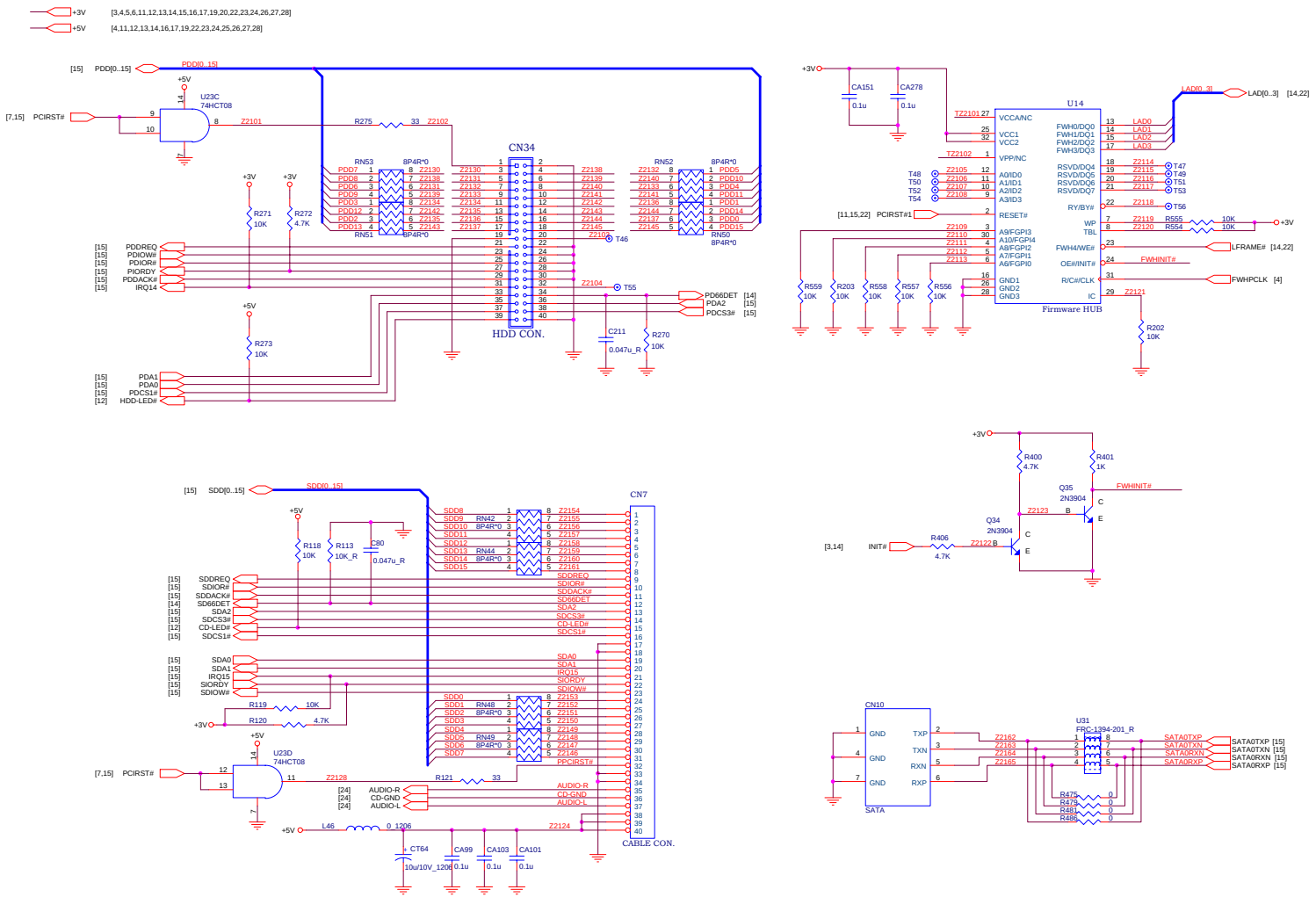
LAN RTL8100BL



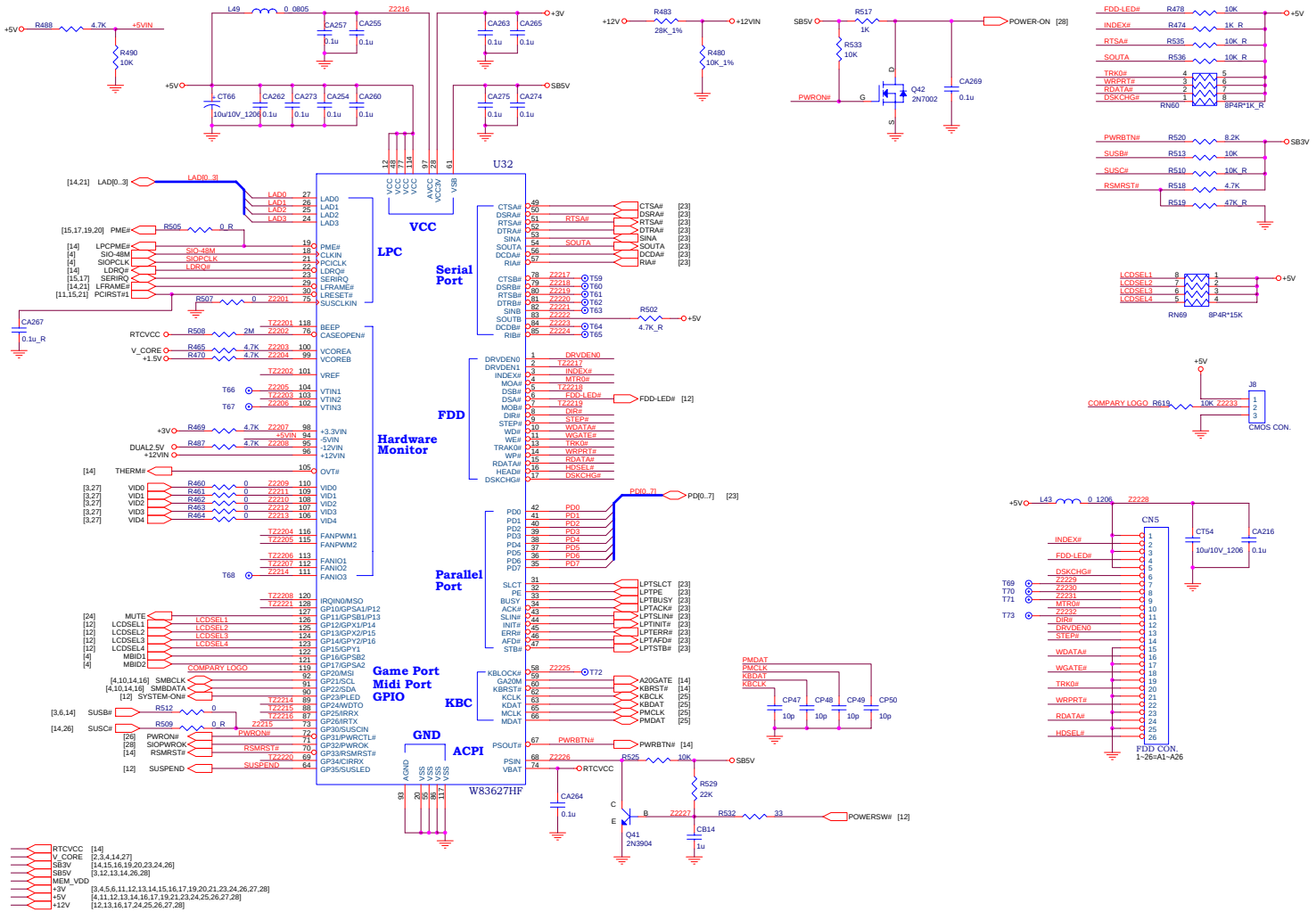
Sheet 20 of 28
LAN RTL8100BL

IDE Connector & Firmware Hub

Sheet 21 of 28
IDE Connector & Firmware Hub

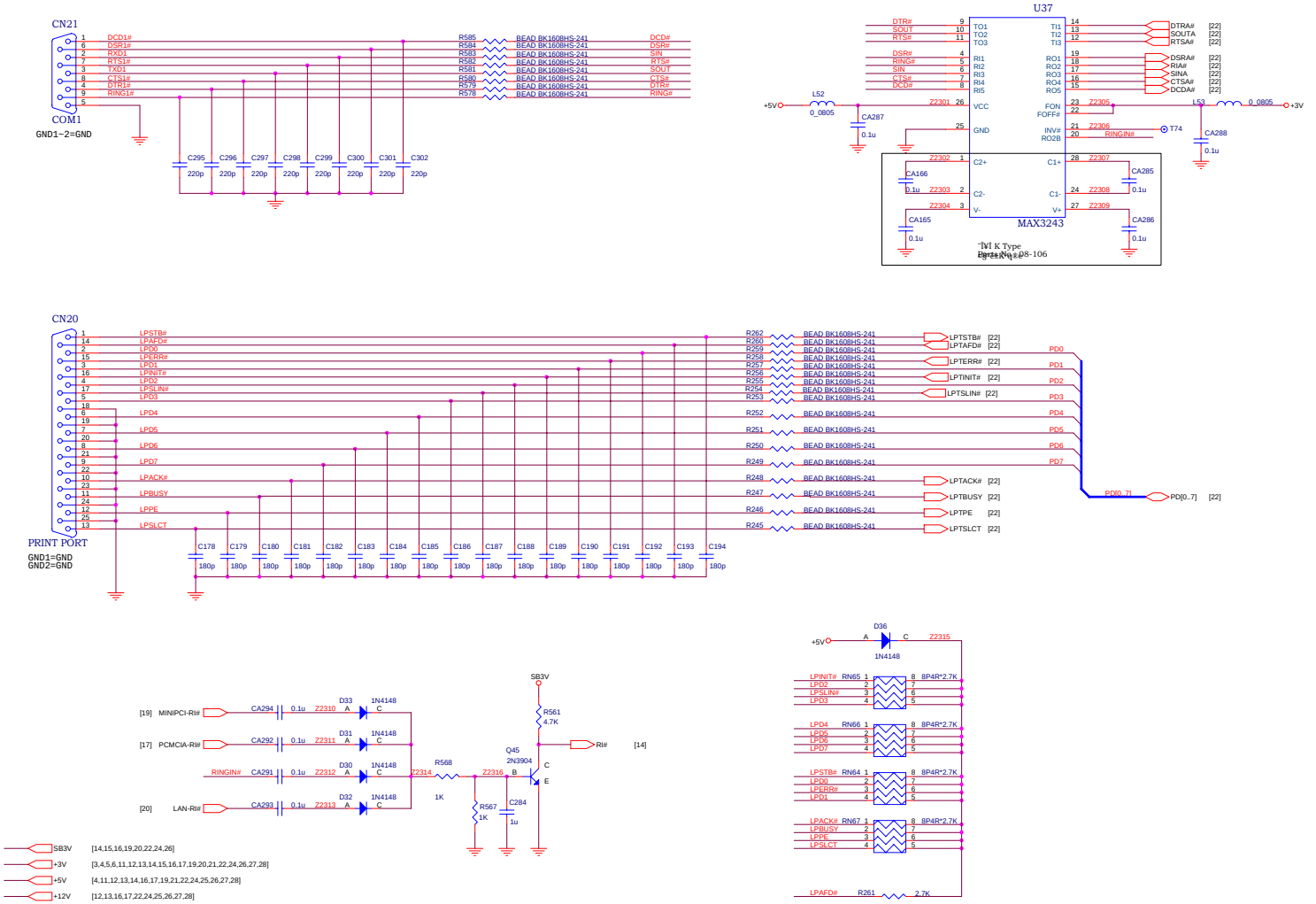


SIO W83627HF



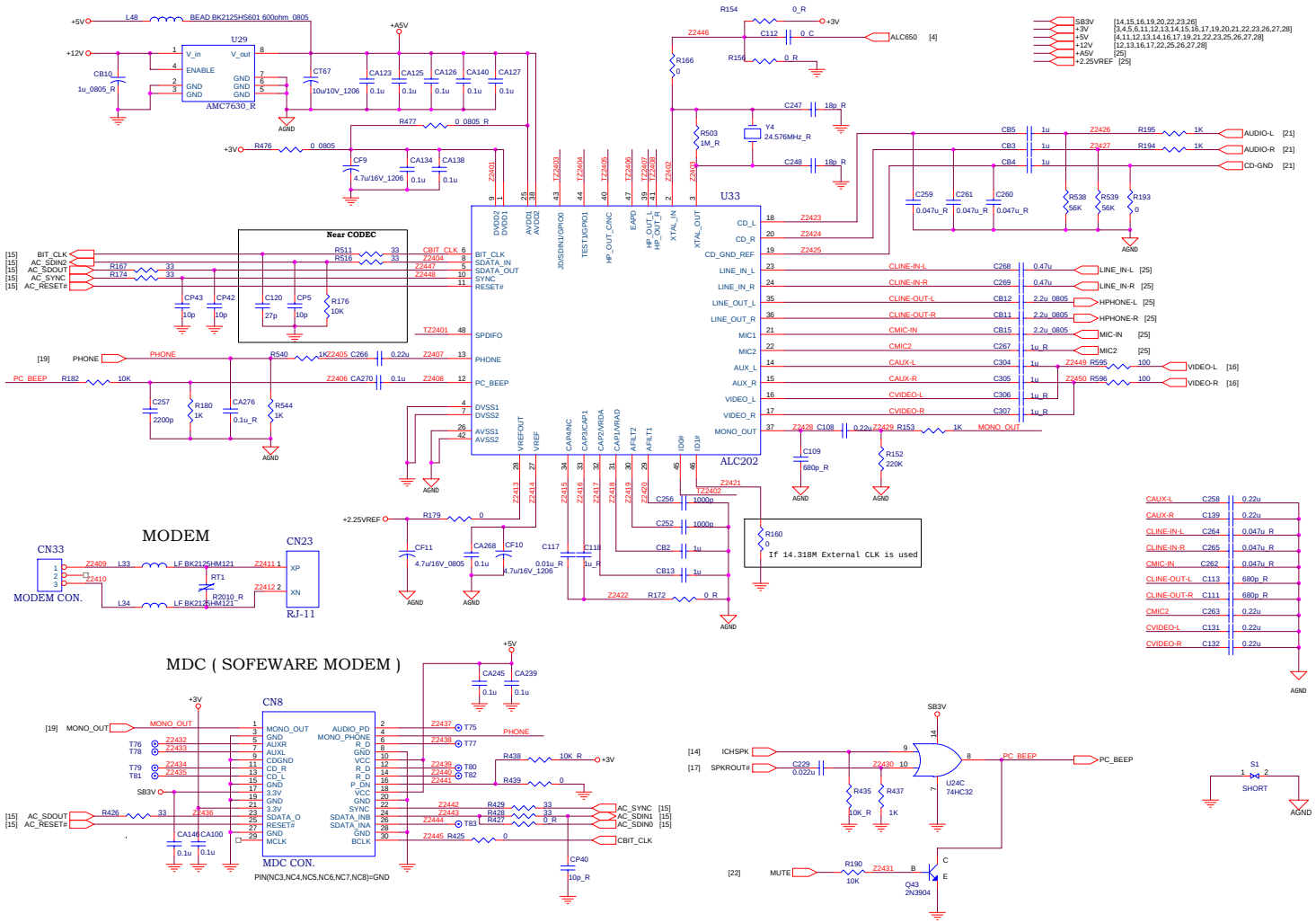
Serial & Parallel Port

Sheet 23 of 28
Serial & Parallel Port



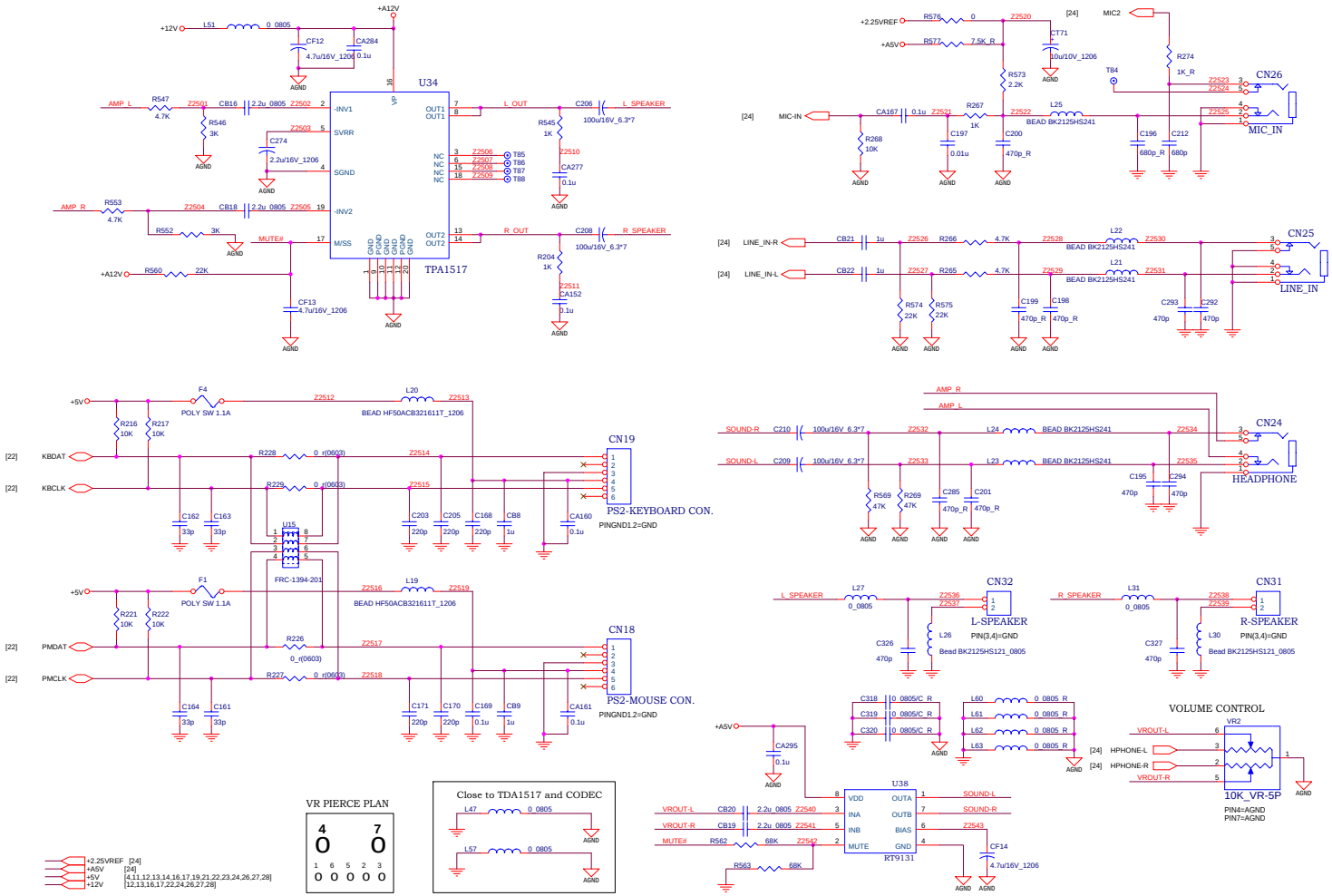
CODEC

Sheet 24 of 28
CODEC

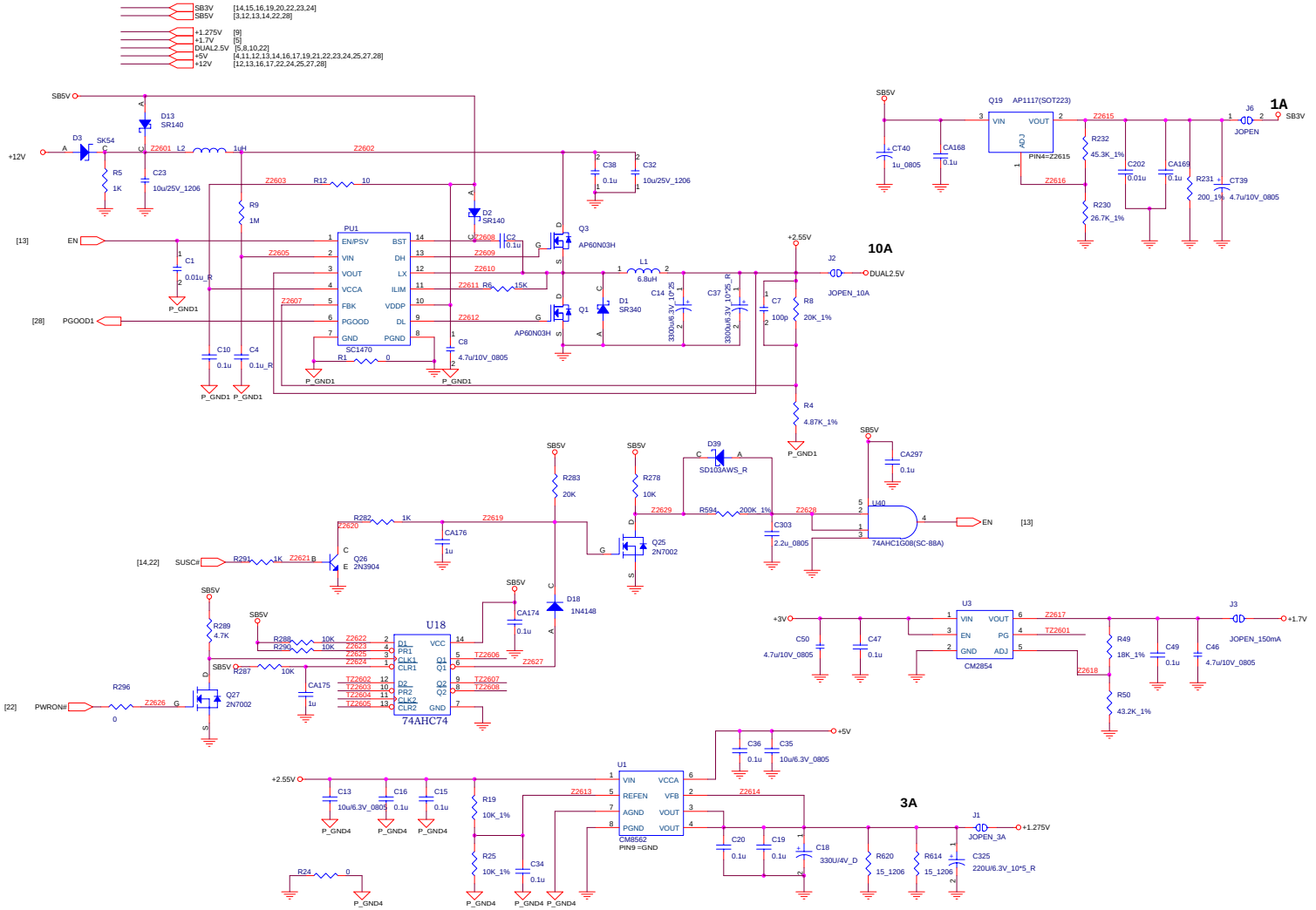


Amplifiers & Inverter Connector

Sheet 25 of 28
Amplifiers & Inverter Connector

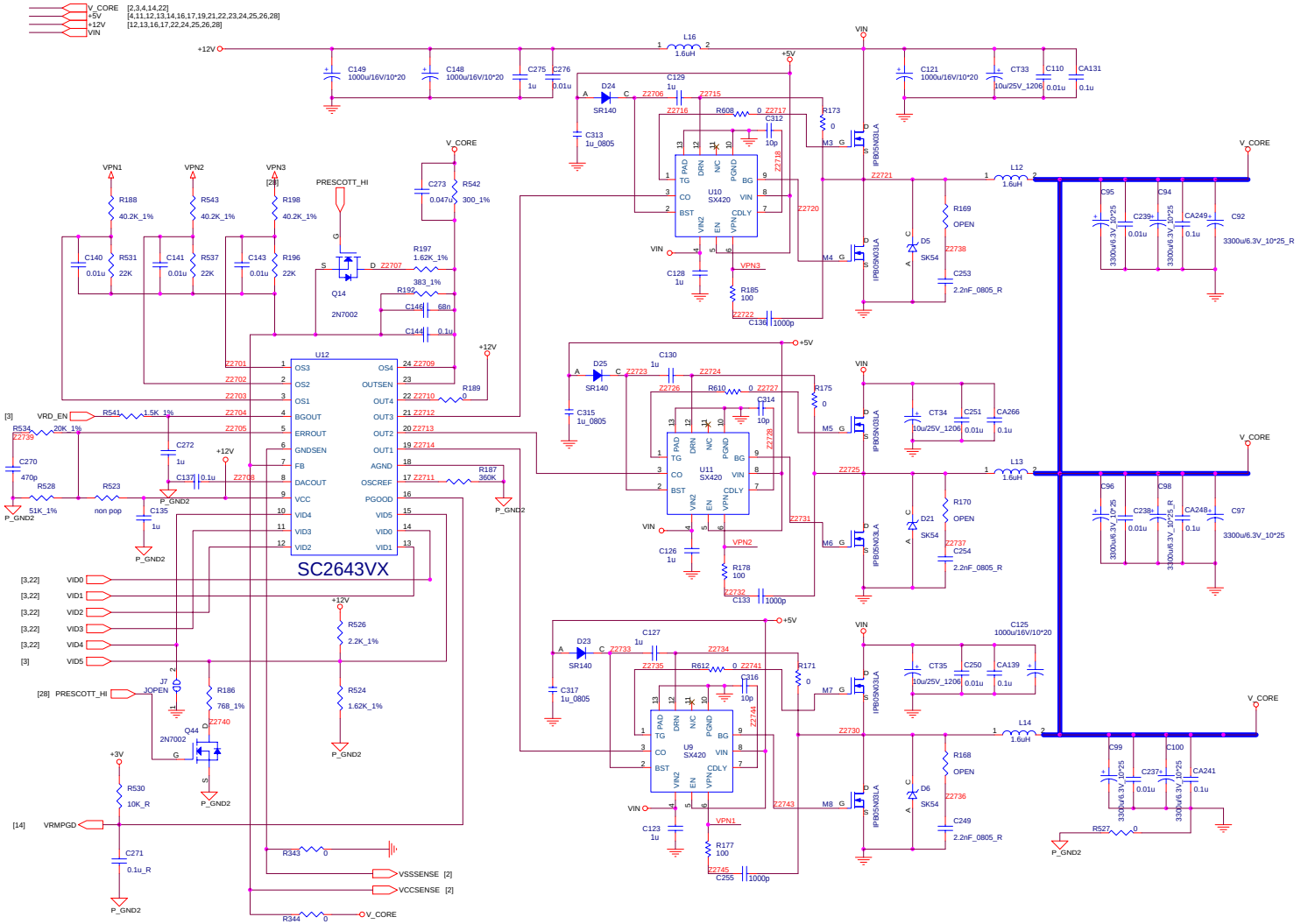


Power 1


SB3V [14,15,16,19,20,22,23,24]
SB5V [3,12,13,14,22,28]
+1.275V [9]
+1.7V [5]
DUAL2.5V [5,8,10,22]
+5V [4,11,12,13,14,16,17,19,21,22,23,24,25,27,28]
+12V [12,13,16,17,22,24,25,27,28]
SB5V
+12V
D3 SK54
D13 SR140
L2 1uH
R5 1K
C23 10u/25V_1206
R9 1M
R12 10
D2 SR140
PU1
SC1470
EN/PSV
VIN
VOUT
VCCA
FBK
PGOOD
GND
BST
DH
LX
ILIM
VDDP
DL
PGND
[13] EN
[28] PGOOD1
C1 0.01u_R
C10 0.1u
C4 0.1u_R
C2 0.1u
C8 4.7u/10V_0805
R1 0
R6 15K
Q3 AP60N03H
Q1 AP60N03H
D1 SR340
L1 6.8uH
C14 3300u/6.3V_10*25_R
C37 3300u/6.3V_10*25_R
C38 0.1u
C32 10u/25V_1206
+2.55V
10A
J2 JOPEN_10A
DUAL2.5V
C7 100p
R8 20K_1%
R4 4.87K_1%
P_GND1
P_GND4
Q19 AP1117(SOT223)
VIN
VOUT
ADJ
PIN4=Z2615
CT40 1u_0805
CA168 0.1u
R232 45.3K_1%
R230 26.7K_1%
C202 0.01u
CA169 0.1u
R231 200_1%
CT39 4.7u/10V_0805
1A
J6 JOPEN
SB3V
R283 20K
R278 10K
D39 SD103AWS_R
R594 200K_1%
CA297 0.1u
U40 74AHC1G08(SC-88A)
C303 2.2u_0805
EN [13]
R282 1K
CA176 1u
Q26 2N3904
[14,22] SUSC#
R291 1K
Q25 2N7002
U18
74AHC74
R289 4.7K
R288 10K
R290 10K
R287 10K
CA174 0.1u
CA175 1u
D18 1N4148
R296 0
Q27 2N7002
[22] PWRON#
U3
CM2854
VIN
VOUT
EN
PG
GND
ADJ
+3V
C50 4.7u/10V_0805
C47 0.1u
R49 18K_1%
C49 0.1u
C46 4.7u/10V_0805
R50 43.2K_1%
J3 JOPEN_150mA
+1.7V
U1
CM8562
PIN9 =GND
VIN
VCCA
REFEN
VFB
AGND
VOUT
PGND
VOUT
C13 10u/6.3V_0805
C16 0.1u
C15 0.1u
R19 10K_1%
R25 10K_1%
C34 0.1u
R24 0
C36 0.1u
C35 10u/6.3V_0805
C20 0.1u
C19 0.1u
C18 330U/4V_D
R620 15_1206
R614 15_1206
C325 220U/6.3V_10*5_R
3A
J1 JOPEN_3A
+1.275V

Power 2

Sheet 27 of 28
Power 2



Power 3

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Power 3